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The Journal of Social Psychology, 1964, 63, 1-29.

INFERENTIAL VISIBILITY AND SEX NORMS IN THE MIDDLE EAST* [1]

Bureau of Social Science Research, Washington, D.C.

SAMUEL Z. KLAUSNER

A. THE PROBLEM

Few quantitative studies of sexual behavior appeared prior to Kinsey, Pomeroy, and Martin's *Sexual Behavior in the Human Male* (11) and Kinsey, Pomeroy, Martin, and Gebhard's *Sexual Behavior in the Human Female* (12). Sociologists and anthropologists were pleased that Kinsey, a zoologist, related variables, such as age, marital status, education, occupation, rural-urban and religious background, to sexual behavior. Some were disappointed, however, that cross-cultural variations were not investigated. Ford and Beach's study (7) responded to this need. Collating materials from the Human Relations Area Files, they described cultural differences in sexual behavior. Unfortunately, most reports in the Files include only qualitative descriptions of sexual attitudes and scattered impressions of behavior. Cross-cultural quantitative studies providing data comparable to that which Kinsey presented for the American male and female are still rare. A list of such studies is presented in Kinsey *et al.* (12, p. 94).

This paper attempts to specify some influences of culture and society upon sexual behavior by studying individuals who changed their cultural environment through migration during the sexually active part of their lives. Biological and basic personality factors remain relatively constant through a migratory period, but the normative environment varies.[2] We will see that the sexual behavior of an immigrant population changes in the direction of that of the native receiving population. It will be argued that the convergence comes about through the impact of the norms of the new culture

* Received in the Editorial Office on November 5, 1963, and given special consideration in accordance with our policy for cross-cultural research. Copyright, 1964, by The Journal Press.

[1] This research was made possible by funds granted by the Ford Foundation. That Foundation is not, however, the author, owner, publisher, or proprietor of this research and is not to be understood as approving, by virtue of its grant, any of the statements or views expressed therein.

[2] Differences between premarital and marital behavior are perhaps the most obvious sexual consequence of changed normative structure. We are interested in the effect of national culture on sexual behavior and will consider only individuals who remained unmarried through the migration.

on social sexual behaviors, such as petting and intercourse, and that the nonsocial sexual behaviors of masturbation and spontaneous orgasms are indirectly influenced. Zetterberg's (24) postulates of evaluative and normative compliance lead us to expect that this would occur. The postulate of evaluative compliance states, "In an action system any actor has a tendency to develop attitudes that are synonymous with uniform evaluations in the system." The postulate of normative compliance or, more precisely, the theorem of normative compliance holds that "an actor's actions have a tendency to become dispositions conforming to the uniform prescriptions of his action system." What is required for the prescriptions to be learned, so that they become dispositions? Dispositional compliance as well as external behavioral compliance[3] is more likely to occur when the natives' "action system" is the immigrants' "reference group."[4] Further, Zetterberg's term "action system" assumes a situation of high social visibility. New norms cannot be taught if they are not, *in some way*, made visible. According to Merton (18, p. 350), " 'Visibility' . . . is a name for the extent to which the structure of a social organization provides occasions to those variously located in that structure to perceive the norms obtaining in the organization and the character of role performance of those manning the organization." Were the new behavioral norms not socially visible or if the immigrant had to depend on "subliminal" cues, or go through a "problem solving" procedure in each new situation, the amount of compliance would be limited. As Kaplan (8) says, ". . . whether or not a given individual is aware of the reference group he is using, he has to be aware of the norm which exists in that group."[5]

We usually do not think of sexual behavior or the norms guiding it as particularly visible.[6] Nevertheless, if the sexual behavior of an immigrant

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[3] Festinger (4, p. 235) says, "Public compliance with private acceptance will occur if there is a desire on the part of the person to remain in the existing relationship with those attempting to influence him."

[4] Sherif (21, p. 224) says, ". . . attitude change of the greatest scope and degree is found when individuals shift or change reference groups, in contrast to effects of exposure to discrete stimuli or events."

[5] Sensitivity to the cues of a new cultural situation is a problem in "learning to pay attention." See, for example, Miller and Dollard (19, p. 23).

[6] The low visibility of sexual norms and behavior may be socially functional since it masks discrepancies between behavior and attitudes which might generate conflict and reduces the possibility of jealousies. Wilbert Moore and Melvin Tumin discuss the role of ignorance in maintaining "smooth social relations by preventing jealousy and internal dissension where differential rewards to approximate status equals are not based on uniformly known and accepted criteria" and "to protect the traditional normative structure . . . through reinforcing the assumption that deviation from the rules is statistically insignificant." See (20, pp. 790-791) and (22, Part IV, on secrecy).

population changes in the direction of the sexual behavior of the natives, we might well seek mechanisms of visibility. The notion of visibility need not be limited to direct or explicit communication about the norms or instruction in them through overt sanctions. We will use the concept of "inferential visibility" to suggest that cues related only indirectly to norms of sexual behavior may allow new immigrants to infer these norms.

B. Gathering the Data

During 1954, the author collected histories of sexual behavior from 101 individuals in Israel. The sample consisted of two relatively homogeneous groups. Sixty of the respondents had recently arrived from Baghdad, Iraq. They were from the upper economic levels, had completed secondary school, and had migrated to Israel between 1949 and 1951.[7] The remaining 41 respondents were native-born Israelis of Eastern European parentage who had also completed secondary school, were from middle and upper classes, and had been raised in an urban environment.[8] Interviews were individual and private.[9] Questions followed the format of the Kinsey reports.[10] The

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[7] Since all had been in Israel for roughly the same length of time, duration of exposure to the new culture is held constant. This homogeneity, however, deprives us of the possibility of studying the influence upon sexual behavior of length of residence.

[8] The group of native-born Israelis chosen represents a small but significant part of Israeli society. It is the subcultural group which is held up as a model in the assimilation of immigrants. Further, since both the Iraqi and native-born Israeli samples were selected in large measure from among students at the Hebrew University, this group is also the major non-Iraqi group with which the sampled Iraqis are likely to interact.

[9] Interviewing on sexual behavior is slightly different but not much more difficult than asking about political or economic attitudes. Only two interviewees failed to complete their interviews. Rapport was established by defining the situation as professional. A Rorschach preceding the sex interview also contributed to rapport. Questions were asked in a matter-of-fact manner showing interest in the response as such without reacting to its content. The behaviors were referred to in accepted dictionary terminology, in Hebrew or Arabic, as the case might be. The interview began with the least-anxiety-provoking questions and then moved to those having more emotional involvement. The first questions inquired about age, schooling, and youth-group membership. Then the interviewee was asked about the source of early sexual information. Males were then asked about the age of first ejaculation and its source. The source of orgasm was then traced through the years. Then the interview turned to a second source and so on. For females, the questions concerned age of first menstruation followed by the age of first orgasm and its source. Generally, questions proceeded from the least- to the most-anxiety-provoking sources. For males, the order was nocturnal emissions, masturbation, petting to orgasm, intercourse with companions and prostitutes. For females, the question on masturbation produced more anxiety and so generally followed the question on petting.

[10] The problem of the validity of the responses is a biting one for any study of sexual behavior. It becomes more acute for behavior recalled over a span of 10-15 years. Kinsey trained interviewers until they brought comparable reports

results are not generalizable to the broader Iraqi and Israeli populations. For reports on comparable samples, see (23) and (17). This report relates the Iraqi and Israeli samples to one another. For a comparison of these with Kinsey's American data, see (14) and (15). Only premarital data are reported here.

C. Definitions

1. Unit of Reporting: Average number of orgasms per week at a given age from a given source.

2. Orgasm: A building up and sudden spasmodic release of muscle tensions associated with sexual activity. Sexual arousal without spasmodic release is not counted. For males, only ejaculations are tabulated.

3. Total Outlet: The mean number of orgasms per week at a given age from all sources together.

4. Accumulative Incidence: The proportion of the population ever having experienced orgasm from a given source by a given age. For example, a 20-year-old having had intercourse at 17 is counted in the accumulative incidence for age 20 even if he did not have intercourse during that year.

5. Active Incidence: The proportion experiencing orgasm from a given source during a given year.

6. Spontaneous Orgasm: An orgasm coming without intentional mechanical stimulation of the body. This includes orgasms occurring spontaneously during exercise, and from imaginative sexual stimulation of reading or dreaming. This category covers nocturnal emissions among males.

7. Masturbation: Mechanical self-stimulation of the genitals or other erogenous zones leading to orgasm.

8. Intercourse with Prostitutes: Heterosexual intercourse in which the female partner participates in consideration of a direct money payment.

9. Intercourse with Companions: Heterosexual intercourse in which no direct money payment is involved.

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from the same interviewees. The interviewee's recall might have been similarly distorted on both occasions. The interviewer, however, has some basis for confidence in the reports. Individuals are remarkably concerned over the accuracy of their own reports. They are often apologetic when uncertain. Experience leads the interviewer to expect a pattern of responses. When a discrepancy appears, a few probes may clarify the situation. The difficulty, however, cannot be entirely escaped. For example, the author interviewed five married couples and found that the males tended to report a higher frequency of marital intercourse than did their wives. The reported behavior may be somewhere between the actual behavior and what the person feels the behavior should have been. This paper refers to "sexual behavior." Technically, it is more correct to speak of "reports of sexual behavior." It is a study of compliant attitudes as well as of compliant actions.

10. Petting to Orgasm: Heterosexual stimulation of genitals or other erogenous zones leading to orgasm without intromission. This varies from mere stroking of one by the other to placing the genitals in apposition.

Homosexuality is too infrequent in the samples to be reported quantitatively. No subject admitted to intercourse with animals.

D. Results

1. *Total Outlet*[11]

The early-adolescent Baghdadi male experiences about one-and-a-half orgasms per week from all sources combined. By late adolescence his activity increases to about two-and-a-half orgasms and then decreases to one-and-a-half a week during his early twenties. The native-born Israeli males reach two orgasms a week by the middle of their high-school years and rise to

TABLE 1
Total Outlet According to Age for Iraqi Males in Baghdad and in Israel and for Native-Born Israeli Males

Age	Iraqi males: Baghdad	Iraqi males: Israel	Native-born Israeli males
11	.37	—	.23
12	.81	—	.06
13	1.23	—	1.72
14	1.57	—	1.81
15	1.74	—	1.93
16	2.06	—	2.23
17	2.33	—	2.57
18	2.50	—	2.08
19	2.30	—	1.99
20	2.25	—	1.85
21	2.39	2.28	2.37
22	1.58	2.94	2.36
23	1.58	2.03	2.12
24	1.74	1.80	2.39
25	1.29	1.63	1.52
26	1.33	1.56	—
27	.93	1.77	—
28	1.05	1.80	—
29	.70	2.02	—
30	.70	1.69	—

two-and-a-half during their early twenties. The Baghdadi's sexual activity decreases during the early twenties. The Israeli experiences less falloff. During this same period, the Baghdadi who has migrated to Israel drops less

[11] Information on relative age of maturity, accumulative incidences, frequencies for the total population, and standard deviations may be found in (14) and (15).

in activity than those who were in Baghdad at the same age but decreases slightly more than the native-born among whom he now lives. See Figure 1(A).

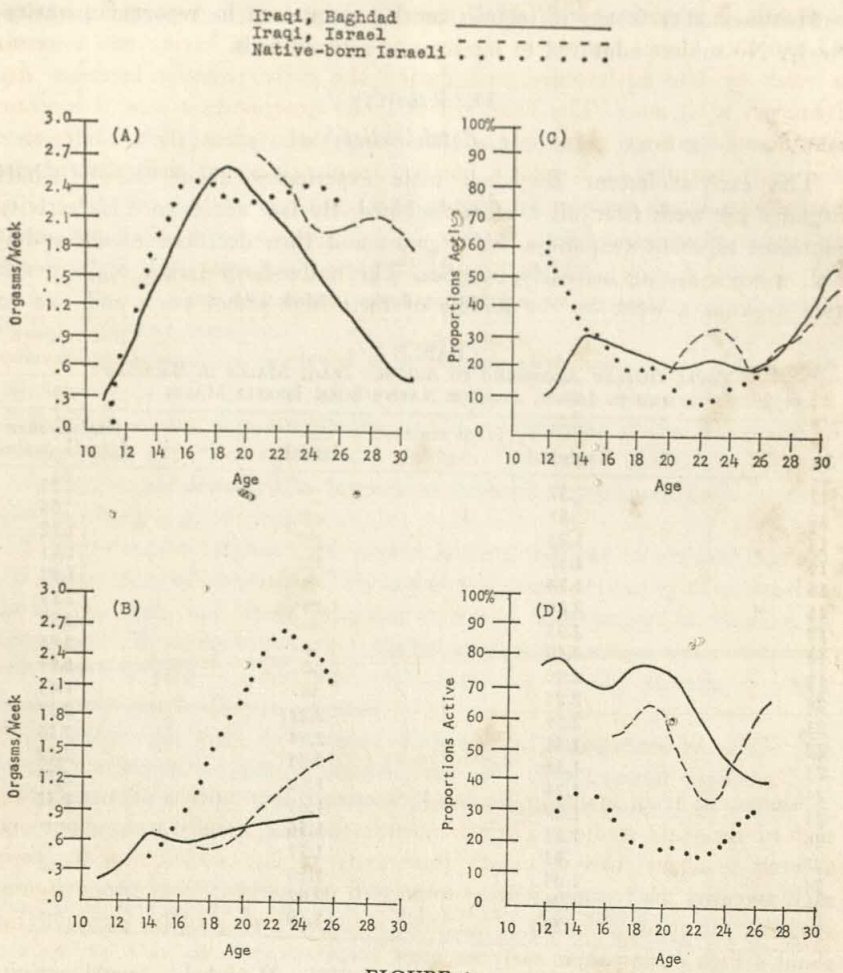

FIGURE 1

TOTAL OUTLET AND SPONTANEOUS ORGASMS OF SELECTED IRAQI AND ISRAELI SUBJECTS (A) Total outlet according to age for Iraqi males in Baghdad and in Israel and for native-born Israeli Males. (B) Total outlet according to age for Iraqi females in Baghdad and in Israel and for native-born Israeli females. (C) Proportion of orgasms occurring spontaneously according to age for Iraqi males in Baghdad and in Israel and for native-born Israeli males. (D) Proportion of orgasms achieved spontaneously according to age for Iraqi females in Baghdad and in Israel and for native-born Israeli females.

The total number of orgasms per week of the Iraqi female shows a slow steady climb from early adolescence to adulthood. In mid-adolescence she has about one orgasm in two weeks. By the twenties she has about three a month. The native-born Israeli female reaches one in two weeks by age 15 and then climbs rapidly in the ensuing years. She is having two orgasms a week by late adolescence, and during the early twenties increases her frequency a bit more. The Iraqi girl in Israel experiences a rate of increase considerably greater than that of her sisters who spent their adolescence and early twenties in Baghdad, but her frequency is less than that of the native-born Israeli female. See Figure 1(B).

TABLE 2
TOTAL OUTLET ACCORDING TO AGE FOR IRAQI FEMALES IN BAGHDAD AND IN ISRAEL AND FOR NATIVE-BORN ISRAELI FEMALES

Age	Iraqi females Baghdad	Iraqi females Israel	Native-born Israeli females
11	.23	—	.01
12	.22	—	.01
13	.19	—	.19
14	.84	—	.50
15	.73	—	.76
16	.48	—	.88
17	.57	.52	1.47
18	.59	.36	1.80
19	.63	.30	2.19
20	.81	.80	2.01
21	.64	1.16	3.67
22	.70	1.08	2.31
23	.81	1.34	2.18
24	—	1.40	1.91
25	—	1.34	—

2. *Spontaneous Orgasms*

Almost all Iraqi males in Baghdad experience spontaneous orgasm during each of the years studied. Their frequencies decline steadily from about one a week to about three a month from early to late adolescence. By their early twenties the frequency drops to once in two weeks. Spontaneous orgasm accounts for about a fourth of all their orgasms during adolescence and for about a fifth during their early twenties.

The proportion of native-born Israeli males experiencing spontaneous orgasm is lower throughout. It varies from half to about three-quarters between early and late adolescence. For those having spontaneous orgasms, the frequency is about the same as for the Iraqis. It occurs about once a week during early adolescence and about three times a month in later

adolescence. It accounts for about a fourth of their orgasms during adolescence but only for slightly over a tenth in their early twenties.

Most of the Iraqis in Israel experience spontaneous orgasm as their age mates did in Iraq. Their frequency is slightly higher. It remains at about once in two weeks through their twenties. During this period, it accounts for a quarter to a fifth of all their orgasms. See Figure 1(C).

About half of the Baghdadi females were experiencing spontaneous orgasms when they entered high school, and about two-thirds were by graduation. The proportion tends to decline during the early twenties. In early adolescence these females experience about three every two weeks. This frequency drops to once a week by late adolescence. Spontaneous orgasms account for three-quarters of all their orgasms until late adolescence and for about half during their early twenties.

The proportion of native-born Israeli females experiencing spontaneous orgasm during any given year follows roughly the same pattern: about half to two-thirds during high school and thereafter. However, they experience them less frequently: about once in two weeks on the average throughout the period under study. Spontaneous orgasm forms a strikingly less important part of their total outlet. About a third of their orgasms come from this source during early adolescence and about a sixth in later adolescence and early adulthood.

Iraqi females in Israel have about the same proportion experiencing spontaneous orgasm during any given year as those in Baghdad. The frequency is decidedly lower, averaging about once in each two or three weeks. In late adolescence, spontaneous orgasm accounts for about two-thirds of all their orgasms. This is less than the Baghdad females and more than the native-born Israeli females. In their early twenties it accounts for about a third of all their orgasms. See Figure 1(D).

3. *Masturbation*

About one-half of the Baghdadi males in Baghdad masturbate during any given year between ages 16 and 23. After that, the proportion involved tends to fall off. For the active, the frequency of masturbation drops from about three times a week at the onset of adolescence to about twice a week during late adolescence and to about once a week by their early twenties. Throughout high school, masturbation accounts for about a half of all orgasms experienced by the entire Baghdadi male sample. During their early twenties, its importance decreases first to a third and then to a quarter of all their orgasms.

TABLE 3

ORGASMS OCCURRING SPONTANEOUSLY ACCORDING TO AGE FOR IRAQI MALES IN BAGHDAD AND IN ISRAEL AND FOR NATIVE-BORN ISRAELI MALES

	Iraqi males								Native-born Israeli males			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency[a] active	Per cent of total outlet	*N*	Active population per cent	Frequency[a] active	Per cent of total outlet	*N*	Active population per cent	Frequency[a] active	Per cent of total outlet
11	41	2.4	.25	0.0	—	—	—	—	22	—	—	—
12	41	4.9	1.12	6.2	—	—	—	—	22	9.1	.63	100.0
13	41	31.7	1.02	26.0	—	—	—	—	22	54.5	1.03	20.9
14	41	61.0	.81	31.2	—	—	—	—	22	54.5	1.06	32.0
15	41	75.6	.68	29.8	—	—	—	—	22	63.3	.74	24.4
16	41	82.9	.64	25.2	—	—	—	—	22	68.2	.80	24.2
17	41	85.4	.75	27.4	—	—	—	—	22	68.2	.70	18.7
18	40	87.5	.74	25.6	—	—	—	—	22	68.2	.75	24.5
19	36	88.9	.64	24.7	—	—	—	—	20	70.0	.82	28.6
20	34	88.2	.64	24.8	—	—	—	—	19	71.6	.61	21.1
21	33	93.9	.49	19.2	8	87.5	.58	21.9	14	64.5	.41	11.0
22	28	89.2	.47	26.5	10	100.0	.60	20.4	11	45.5	.61	11.9
23	22	90.9	.36	20.8	14	92.8	.89	38.3	8	62.5	.21	6.1
24	21	76.2	.40	17.8	15	93.3	.53	27.7	7	71.4	.33	9.6
25	13	92.3	.36	25.6	20	90.0	.50	15.3	4	75.0	.53	26.2
26	10	90.0	.38	25.6	17	82.4	.41	21.7	—	—	—	—
27	7	85.7	.21	19.4	15	80.0	.61	27.1	—	—	—	—
28	4	75.0	.60	42.8	14	78.6	.45	1.9	—	—	—	—
29	4	100.0	.60	85.7	8	85.5	.72	30.6	—	—	—	—
30	3	100.0	.60	85.7	4	75.0	1.39	61.5	—	—	—	—

[a] Frequency active refers to the mean number of times per week in which those active at all engaged in the behavior.

TABLE 4

ORGASMS ACHIEVED SPONTANEOUSLY ACCORDING TO AGE FOR IRAQI FEMALES IN BAGHDAD AND ISRAEL AND NATIVE-BORN ISRAELI FEMALES

	Iraqi females								Native-born Israeli females			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency[a] active	Per cent of total outlet	*N*	Active population per cent	Frequency[a] active	Per cent of total outlet	*N*	Active population per cent	Frequency[a] active	Per cent of total outlet
11	19	10.5	1.75	78.3	—	—	—	—	19	—	—	—
12	19	10.5	1.75	81.8	—	—	—	—	19	10.5	.02	0.0
13	19	15.8	1.00	78.9	—	—	—	—	19	15.8	.37	31.6
14	19	42.1	1.50	75.0	—	—	—	—	19	47.5	.47	44.0
15	19	47.4	1.11	71.2	—	—	—	—	19	47.5	.59	35.5
16	19	47.1	.85	75.0	—	—	—	—	19	58.0	.57	37.5
17	15	60.0	.83	87.7	4	75.0	.40	57.7	19	58.0	.59	23.1
18	14	71.4	.72	86.4	5	80.0	.32	69.4	18	55.6	.49	15.0
19	13	61.5	.88	83.0	6	83.3	.25	70.0	15	66.7	.55	16.9
20	10	70.0	.91	79.0	8	62.5	.17	12.5	13	69.2	.53	18.4
21	8	62.5	.68	65.6	8	75.0	.45	29.3	11	72.7	.44	8.7
22	6	50.0	.85	60.0	8	88.9	.45	41.7	8	62.5	.64	17.3
23	4	50.0	.52	32.1	6	83.3	.75	46.2	7	71.4	.49	16.1
24	—	—	—	—	5	100.0	.51	3.6	3	100.0	1.00	52.4
25	—	—	—	—	5	100.0	1.11	82.0	—	—	—	—

[a] Frequency active refers to the mean number of times per week in which those active at all engaged in the behavior.

Similarly, for native-born Israeli males, about half masturbate during any given high-school year. This drops to about a third of males in their early twenties. The active masturbate about twice weekly while going to high school and once a week by late adolescence. Subsequently, the frequency drops. At the beginning of high school, masturbation accounts for two-thirds of all their orgasms but only for about a third of them by graduation. Thereafter, masturbation declines sharply in relative importance.

The proportion of Iraqi males in Israel active in any given year is about the same as in Baghdad—about half of the population. However, the twice-a-week frequency of the active during their early twenties is higher than for Baghdad. This frequency falls off rapidly in later years. The relative importance of masturbation is higher for them than for Iraqis in Baghdad during their early twenties, but the decline is more rapid during later years. It is only during the mid and the late twenties that their pattern begins to drop more than that of those in Baghdad and to approach the native-born Israeli pattern. See Figure 2(A).

Among females in Baghdad there is a steady climb in the proportion masturbating with each passing year. During early adolescence only about one girl in ten masturbates. By late adolescence about half do. During their early twenties the proportion involved rises to about two-thirds. Those active in masturbation in any given year achieve orgasm in this way about once in four weeks during late adolescence and about once in five weeks during their early twenties. During high school, masturbation accounts for about a quarter of all their orgasms but only for an eighth in post-high-school years. Its importance increases during their early twenties.

About two-thirds of native-born Israeli females masturbate during any given high-school year. The proportion climbs to three-fourths by the early twenties. Those masturbating do so about once a week by the end of high school. Their frequency increases to over twice a week by their twenties. For the early adolescent girl in Israel, masturbation accounts for about two-thirds of all orgasms. By late adolescence it accounts for less than half of them.

The Iraqi female in Israel differs sharply from both of the above groups. Because of the small sample, the figures are erratic, but it appears that about a quarter are actively involved in masturbation during a given year but with a very low frequency. Masturbation does not account for more than 2 or 3 per cent of their total orgasms. See Figure 2(B).

TABLE 5
ORGASMS ACCOUNTED FOR BY MASTURBATION BY AGE FOR IRAQI MALES IN BAGHDAD AND ISRAEL AND NATIVE-BORN ISRAELI MALES

	Iraqi males								Native-born Israeli males			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet
11	41	9.8	3.87	100.0	—	—	—	—	22	4.5	5.00	100.0
12	41	12.2	3.90	51.8	—	—	—	—	22	—	—	—
13	41	22.0	3.06	54.4	—	—	—	—	22	40.9	2.83	67.4
14	41	31.7	2.69	54.1	—	—	—	—	22	35.8	2.06	67.4
15	41	48.8	2.04	55.7	—	—	—	—	22	27.3	2.06	68.0
16	41	58.4	1.89	53.4	—	—	—	—	22	63.6	1.86	52.9
17	41	53.7	2.24	51.5	—	—	—	—	22	59.1	2.14	49.0
18	40	52.5	2.10	44.0	—	—	—	—	22	54.5	1.31	34.6
19	36	55.6	1.73	41.7	—	—	—	—	20	60.0	.76	23.1
20	34	50.0	1.28	39.5	—	—	—	—	19	47.4	1.21	30.8
21	33	57.5	1.57	37.6	8	50.0	2.53	55.3	14	43.0	.79	14.3
22	28	53.6	.91	31.0	10	50.0	2.30	39.1	11	27.3	.54	6.3
23	22	54.5	.29	27.2	14	57.1	1.65	46.8	8	37.5	.13	2.4
24	21	47.6	.80	21.8	15	53.3	1.77	52.7	7	28.6	.12	.8
25	13	30.7	1.09	26.4	20	70.0	.57	24.5	4	50.0	.11	3.3
26	10	30.0	1.25	27.8	17	58.8	1.06	39.1	—	—	—	—
27	7	42.8	1.25	56.9	15	53.3	.54	15.8	—	—	—	—
28	4	—	1.01	47.6	14	50.0	.81	22.2	—	—	—	—
29	4	33.0	.02	—	8	50.0	.79	14.4	—	—	—	—
30	3	—	—	—	4	37.5	.23	6.5	—	—	—	—

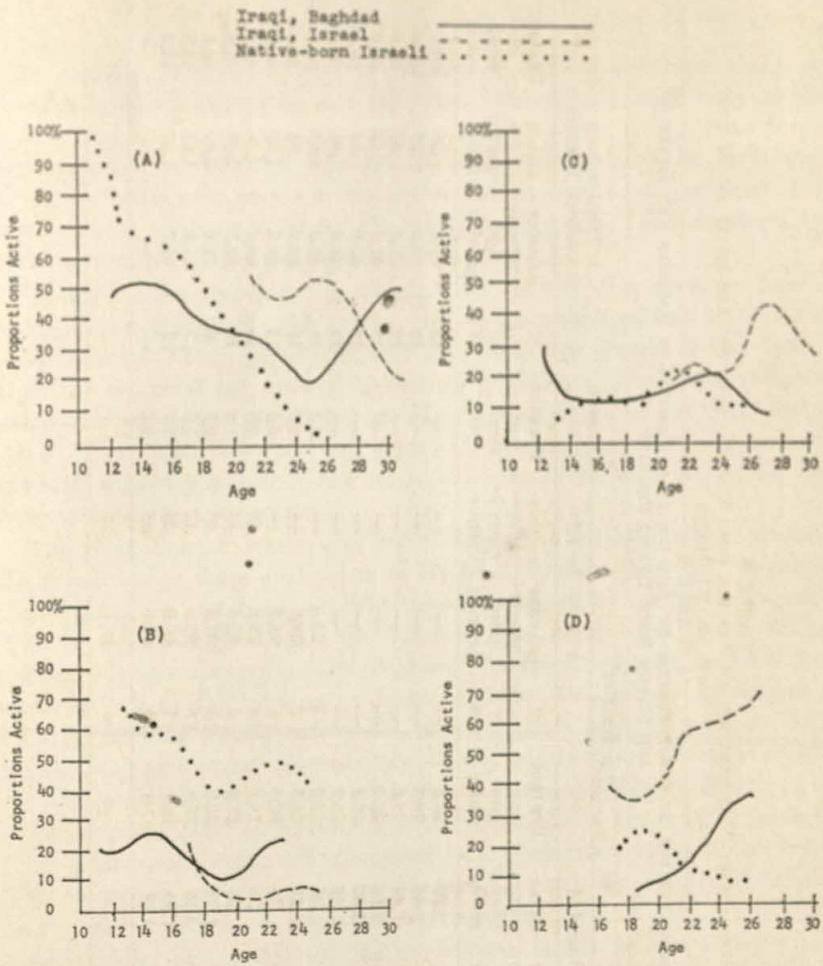

FIGURE 2

ORGASMS INDUCED BY MASTURBATION AND ORGASMS INDUCED BY PETTING FOR SELECTED IRAQI AND ISRAELI SUBJECTS

(A) Proportion of all orgasms accounted for by masturbation by age for Iraqi males in Baghdad and in Israel and for native-born Israeli males. (B) Proportion of all orgasms accounted for by masturbation by age for Iraqi females in Baghdad and in Israel and for native-born Israeli femles. (C) Proportion of all orgasms accounted for by petting according to age for Iraqi males in Baghdad and in Israel and for native-born Israeli males. (D) Proportion of all orgasms accounted for by petting according to age for Iraqi females in Baghdad and in Israel and for native-born Israeli females.

TABLE 6
ORGASMS ACCOUNTED FOR BY MASTURBATION BY AGE FOR IRAQI FEMALES IN BAGHDAD AND ISRAEL AND NATIVE BORN ISRAELI FEMALES

	Iraqi females								Native-born Israeli females			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet
11	19	5.2	1.00	21.7	—	—	—	—	19	5.3	.25	100.0
12	19	10.5	.41	18.2	—	—	—	—	19	5.3	.25	100.0
13	19	10.5	.41	21.0	—	—	—	—	19	21.1	.63	68.4
14	19	—	1.02	25.0	—	—	—	—	19	47.5	.59	56.0
15	19	—	1.02	28.7	—	—	—	—	19	60.0	.85	64.5
16	19	5.3	.58	25.0	—	—	—	—	19	58.0	.94	61.4
17	15	26.7	.27	12.3	4	25.0	—	23.1	19	63.2	1.03	44.2
18	14	42.9	.20	13.5	5	20.0	—	2.7	18	66.7	.93	34.4
19	13	45.6	.18	12.0	6	16.7	—	3.3	15	66.7	1.33	40.6
20	10	50.0	.25	14.8	8	25.0	.09	2.5	13	69.2	1.24	42.8
21	8	62.5	.25	23.4	8	12.5	—	.8	11	72.7	2.39	46.6
22	6	66.7	.16	22.8	8	33.3	.08	2.7	8	75.0	2.19	68.8
23	4	75.0	1.63	27.1	6	53.3	.17	3.7	7	85.8	1.12	44.0
24	—	—	—	—	5	40.0	.21	5.7	3	66.7	1.00	35.1
25	—	—	—	—	5	60.0	.19	8.2	—	—	—	—

4. *Petting to Orgasm*

In Baghdad, from one-quarter to one-third of the males experience orgasm through heterosexual petting each year from late adolescence to early adulthood. Those actively engaged in petting during high school achieve about three orgasms every two weeks in this way. By their early twenties, the frequency drops to slightly over once a week. During adolescence, petting accounts for about one in seven orgasms for the whole male sample. This increases to about one in five by their early twenties.

During the last years of high school, some one-half of native-born Israeli males achieve orgasm through petting, and about a third still do so by their early twenties. Those actively engaged have about one orgasm in two weeks from this source at the time of high-school graduation. The frequency rises to about three in two weeks by age 21 and then drops to less than one a week. This outlet accounts for about 15 per cent of their orgasms at graduation from high school and for as much as 28 per cent at age 21. Its importance declines thereafter.

The proportion of Iraqis who pet to orgasm in Israel is almost double the proportion of those who did so in Baghdad. During their early twenties their frequencies rise from somewhat under to somewhat over once a week. This is slightly higher than the frequency for native-born Israeli males and considerably above Iraqis in Baghdad. At age 21, petting accounts for about a fifth of the orgasms of Iraqis in Israel but, instead of declining in importance as among native-born males, it rises in importance as does the Baghdad pattern but more sharply. By the mid-twenties, petting accounts for over a third of all orgasms of Iraqis in Israel. See Figure 2(C).

Petting to orgasm is insignificant in the sexual life of females in Baghdad. During late adolescence, only about one in ten achieves orgasm in this way. The proportion active increases in the ensuing years. By 21, about 11 per cent of their orgasms are accounted for by petting.

In contrast, almost half of the native-born Israeli females actively pet to orgasm by high-school graduation. About 60 per cent do so in the immediately following years. Those active achieve orgasm about once a week from petting during late adolescence and about once in two weeks during their early twenties. During late adolescence, petting accounts for about a fourth of the orgasms of native-born Israeli females. This proportion declines thereafter.

The proportion of Iraqi females in Israel achieving orgasm through heterosexual petting is considerably higher than in Baghdad but not as

TABLE 7

ORGASMS ACCOUNTED FOR BY PETTING ACCORDING TO AGE FOR IRAQI MALES IN BAGHDAD AND ISRAEL AND NATIVE-BORN ISRAELI MALES

	Iraqi males								Native-born Israeli males			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet
11	41	—	—	—	—	—	—	—	22	—	—	—
12	41	2.4	14.00	43.2	—	—	—	—	22	—	—	—
13	41	2.4	10.00	19.5	—	—	—	—	22	—	—	—
14	41	4.9	4.75	14.6	—	—	—	—	22	4.5	.33	.6
15	41	14.6	1.79	14.9	—	—	—	—	22	27.3	.35	5.2
16	41	17.1	1.75	14.1	—	—	—	—	22	50.0	.55	12.1
17	41	24.4	1.23	12.8	—	—	—	—	22	54.5	.58	12.5
18	40	17.5	.80	12.4	—	—	—	—	22	54.5	.56	14.9
19	36	35.3	1.08	15.6	—	—	—	—	20	50.0	.49	12.1
20	34	32.4	1.26	17.7	—	—	—	—	19	47.4	.69	17.8
21	33	36.3	1.16	17.6	8	75.0	.64	21.5	14	43.0	1.53	27.9
22	28	28.6	.72	12.6	10	70.0	1.10	26.2	11	36.4	.92	10.2
23	22	27.2	1.25	21.5	14	57.1	.42	11.8	8	37.5	.14	23.6
24	21	33.3	1.04	20.1	15	66.7	.45	16.6	7	57.1	.46	11.3
25	13	30.7	.89	20.9	20	55.0	1.28	43.5	4	50.0	.38	12.5
26	10	20.0	.52	7.5	17	70.6	.82	37.2	—	—	—	—
27	7	14.3	.05	—	15	60.0	1.17	39.5	—	—	—	—
28	4	—	—	—	14	42.8	1.34	31.6	—	—	—	—
29	4	—	—	—	8	37.5	1.58	29.2	—	—	—	—
30	3	—	—	—	4	25.0	.09	1.2	—	—	—	—

high as for native-born Israeli females. Throughout late adolescence and the early twenties, an average of a third have this experience during each year. For those Iraqi females in Israel petting, the frequency of orgasm is considerably higher than either the Baghdad sample or the native-born females. Over the entire period, frequencies remain at about twice a week. Petting is a much more important source of orgasms for the Iraqis in Israel than in Baghdad and also more important than for the native-born females. In late adolescence, petting accounts for about a third of their orgasms and for over half of them during their early twenties. See Figure 2(D).

5. *Intercourse with Prostitutes*

Among Baghdadi males, 35 per cent visit prostitutes at age 18. During their early twenties, three out of four youths have intercourse with prostitutes. Those active during mid-adolescence average one visit a week to a prostitute. This frequency drops steadily to about one visit in two weeks by their mid-twenties. Prostitution accounts for about a seventh of the orgasms of late adolescents. It accounts for a quarter to a third of all orgasms during their early twenties.

Among native-born Israeli males, visits to prostitutes are extremely rare. Only between the ages of 17 and 22 does any activity appear and then in only about 10 per cent of the population. Only at age 20 does intercourse with prostitutes account for as much as 8.6 per cent of all orgasms.

In Israel, the Iraqi pattern of intercourse with prostitutes approaches that of the native-born Israeli. During their early twenties about one in five is active during a given year. The proportion drops slightly during the mid-twenties and rises a bit subsequently. Those who do visit prostitutes in Israel do so not more than a few times a year. Until their late twenties it never accounts for 1 per cent of all their orgasms. See Figure 3(A).

6. *Intercourse with Companions*

Only some 5 to 6 per cent of Iraqi males in Baghdad have intercourse with companions during any given year to the age of 22. The proportion rises to 15 per cent by age 25. The few active during adolescence have intercourse once or twice a week. Subsequently, the frequency averages about once in two weeks. For the population as a whole, this outlet generally accounts for no more than 3 to 4 per cent of all orgasms and rarely over 9 per cent.

The pattern of intercourse with companions of native-born Israelis is radically different. By the end of secondary school over half of the males

TABLE 8

ORGASMS ACCOUNTED FOR BY PETTING ACCORDING TO AGE FOR IRAQI FEMALES IN BAGHDAD AND ISRAEL AND ISRAEL AND NATIVE-BORN ISRAELI FEMALES

	Iraqi females								Native-born Israeli females			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet
11	19	5.2	.02	0.0	—	—	—	—	19	—	—	—
12	19	—	—	—	—	—	—	—	19	—	—	—
13	19	—	—	—	—	—	—	—	19	—	—	—
14	19	—	—	—	—	—	—	—	19	—	—	—
15	19	—	—	—	—	—	—	—	19	—	—	—
16	19	—	—	—	—	—	—	—	19	5.3	.12	1.1
17	15	13.3	.04	0.0	4	50.0	.42	38.5	19	26.3	1.16	20.4
18	14	7.1	—	—	5	20.0	—	27.8	18	44.4	1.16	28.9
19	13	7.7	—	4.6	6	33.3	.26	26.6	15	60.0	.91	25.1
20	10	10.0	—	6.1	8	25.0	2.75	85.0	13	61.5	.76	23.4
21	8	25.0	.29	10.9	8	37.5	2.18	69.8	11	63.6	1.02	17.4
22	6	33.3	.37	17.1	8	44.5	1.20	5.5	8	37.5	.46	6.9
23	4	50.0	.88	54.3	6	50.0	2.02	50.0	7	57.1	.47	12.4
24	—	—	—	—	5	4.0	2.03	57.1	3	66.7	.36	12.6
25	—	—	—	—	5	10.0	.20	8.9	—	—	—	—

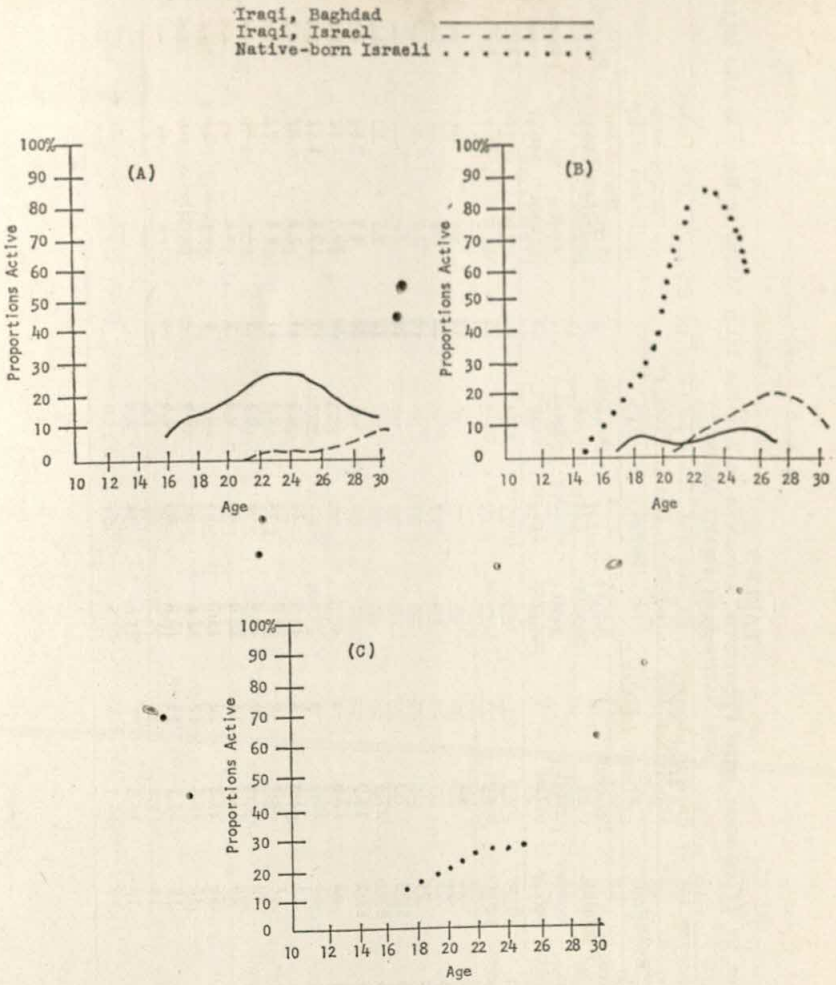

FIGURE 3

ORGASMS INDUCED BY INTERCOURSE FOR SELECTED IRAQI AND ISRAELI SUBJECTS

(A) Proportion of all orgasms accounted for by intercourse with prostitutes according to age for Iraqi males in Baghdad and in Israel and for native-born Israeli males. (B) Proportion of all orgasms deriving from intercourse with companions according to age among Iraqi males in Baghdad and in Israel and for native-born Israeli males. (C) Proportion of all orgasms deriving from intercourse with companions according to age among native-born Israeli females.

TABLE 9

ORGASMS ACCOUNTED FOR BY INTERCOURSE WITH PROSTITUTES ACCORDING TO AGE FOR IRAQI MALES IN BAGHDAD AND ISRAEL AND NATIVE-BORN ISRAELI MALES

	Iraqi males								Native-born Israeli males			
	Baghdad				Israel							
Age	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet	*N*	Active population per cent	Frequency active	Per cent of total outlet
11	41	—	—	—	—	—	—	—	22	—	—	—
12	41	—	—	—	—	—	—	—	22	—	—	—
13	41	—	—	—	—	—	—	—	22	—	—	—
14	41	2.4	.05	—	—	—	—	—	22	—	—	—
15	41	2.4	.25	—	—	—	—	—	22	—	—	—
16	41	14.6	1.05	7.3	—	—	—	—	22	—	—	—
17	41	14.6	1.02	27.5	—	—	—	—	22	9.5	.02	0.0
18	40	35.0	1.01	14.0	—	—	—	—	22	4.5	2.00	4.3
19	36	47.2	.62	12.6	—	—	—	—	20	20.0	.78	8.0
20	34	61.8	.61	16.8	—	—	—	—	19	10.5	1.51	8.6
21	33	66.7	.84	23.4	8	25.0	.24	0.4	14	7.1	.02	0.0
22	28	67.6	.67	28.5	10	20.0	.11	0.6	11	9.1	.02	0.0
23	22	72.7	.59	27.2	14	21.4	.08	0.5	8	—	—	—
24	21	76.2	.76	33.3	15	20.0	.04	0.6	7	—	—	—
25	13	63.8	.56	23.2	20	15.0	.05	—	4	—	—	—
26	10	90.0	.45	30.8	17	17.6	.07	0.6	—	—	—	—
27	7	85.7	.18	16.1	15	30.0	.03	0.6	—	—	—	—
28	4	—	.14	9.5	14	35.7	.08	1.6	—	—	—	—
29	4	66.0	.10	14.3	8	25.0	.54	6.4	—	—	—	—
30	3	100.0	.10	14.3	4	50.0	.54	15.9	—	—	—	—

TABLE 10

ORGASMS DERIVING FROM INTERCOURSE WITH COMPANIONS ACCORDING TO AGE AMONG IRAQI MALES IN BAGHDAD AND ISRAEL AND NATIVE-BORN ISRAELI MALES

	Iraqi males								Native-born Israeli males			
	Baghdad				Israeli							
Age	N	Active population per cent	Frequency active	Per cent of total outlet	N	Active population per cent	Frequency active	Per cent of total outlet	N	Active population per cent	Frequency active	Per cent of total outlet
11	41	—	—	—	—	—	—	—	22	—	—	—
12	41	—	—	—	—	—	—	—	22	—	—	—
13	41	—	—	—	—	—	—	—	22	—	—	—
14	41	—	—	—	—	—	—	—	22	—	—	—
15	41	—	—	—	—	—	—	—	22	4.5	1.00	2.6
16	41	—	—	—	—	—	—	—	22	22.7	1.05	10.8
17	41	4.9	1.06	2.1	—	—	—	—	22	40.9	1.25	19.8
18	40	5.0	2.06	4.0	—	—	—	—	22	54.5	.83	21.6
19	36	5.6	2.50	5.1	—	—	—	—	20	65.0	.85	28.1
20	34	5.9	.51	1.3	—	—	—	—	19	52.6	.75	21.6
21	33	6.6	.86	2.9	8	12.5	.25	1.3	14	78.6	1.41	46.3
22	28	3.4	.75	1.2	10	30.0	1.35	13.6	11	100.0	1.58	69.9
23	22	13.6	.45	3.8	14	42.8	.15	2.9	8	100.0	1.89	89.2
24	21	14.3	.83	8.6	15	46.6	1.83	4.4	7	100.0	1.41	78.2
25	13	15.4	.42	4.6	20	35.0	.85	17.8	4	50.0	1.75	57.9
26	10	20.0	.62	9.2	17	23.5	.05	0.6	—	—	—	—
27	7	14.3	.50	5.3	15	40.0	.76	16.9	—	—	—	—
28	4	—	—	—	14	35.7	1.26	25.0	—	—	—	—
29	4	—	—	—	8	37.5	1.04	19.3	—	—	—	—
30	3	—	—	—	4	25.0	1.00	14.8	—	—	—	—

are experiencing intercourse. Subsequently the proportion rises to include all the males in the sample. Until 20, the active are having intercourse about once a week. Thereafter the frequency increases to between one-and-a-half and two times a week. Intercourse with companions accounts for about a fourth of all orgasms during late adolescence and for almost half at age 21. Subsequently, three out of every four orgasms of native-born Israeli males are achieved through intercourse with companions.

Among Iraqi males in Israel the proportion actively having intercourse with companions rises sharply above the Baghdad sample. By age 22, 30 per cent are having this experience. In later years the figure rises above 40 per cent. This proportion is still considerably below that of native-born Israeli males. Ignoring what appear to be errors of sampling, those active tend to have intercourse about once a week. Intercourse never accounts for as great a proportion of the orgasms of Iraqi males in Israel as of native-born Israelis. At age 22, it accounts for about 14 per cent of all orgasms and for 18 per cent at age 25. See Figure 3(B).

No Iraqi female in the sample reported having intercourse with a companion in Baghdad. One Iraqi female had intercourse on one occasion in Israel. The pattern exhibited by native-born Israeli females differs sharply from this. By the age of 18 about one in ten native-born Israeli females is experiencing orgasm through intercourse with companions. A fourth are doing so by age 21. In the active part of the population, the frequencies are relatively high. Those who become active before the age of 21 engage

TABLE 11
ORGASMS DERIVING FROM INTERCOURSE WITH COMPANIONS ACCORDING TO AGE AMONG NATIVE-BORN ISRAELI FEMALES

Age	*N*	Active population per cent	Frequency active	Per cent of total outlet
11	19	—	—	—
12	19	—	—	—
13	19	—	—	—
14	19	—	—	—
15	19	—	—	—
16	19	—	—	—
17	19	5.3	3.50	12.2
18	18	11.1	3.50	21.7
19	15	13.3	2.84	12.8
20	13	7.7	2.84	14.9
21	11	27.3	3.67	27.2
22	8	25.0	.61	6.9
23	7	42.9	1.39	27.5
24	3	—	—	—

in intercourse, on an average, over three times a week. Later the frequency drops to between once and twice a week. For the population as a whole, intercourse with companions accounts for about one-sixth of all orgasms during this period. See Figure 3(C).

E. Discussion

1. *Change of Sexual Norms*

The graphs provide a visual grasp of the data. Figure 1(A) shows a sharp drop in total outlet after age 20 in Baghdad which does not occur in the case of native-born Israelis. The total outlet for Iraqis in Israel lies between the two. Figure 1(B) reveals that the total outlet for Iraqi females in Israel is greater than in Baghdad but not as high as that of the native-born Israeli females. The overall sexual behavior of the immigrants has changed in the direction of the behavior of Israelis. An examination of each source of orgasm will aid in specifying the social factors in the change.

Petting and intercourse, being social sexual behaviors, are more likely to be influenced by culture and social structure. Spontaneous orgasm and masturbation, as solitary behaviors, might be indirectly affected. These latter may be residuals for that part of the sexual drive which is stimulated but not expressed socially.

With reference to the social sexual behaviors, Figure 3(A) shows Iraqis in Israel approaching the native-born Israeli pattern of not going to prostitutes. This is not due to unavailability, since prostitutes are found in all major cities. The explanation resides, in part, in the social evaluation of prostitution. Native-born Israelis whom the Iraqis meet are apt to look askance at this behavior, partly on the basis of the socialist ethic relating prostitution to bourgeois exploitation of women. Recourse to prostitutes is also thought to reflect upon the fibre of a man with whom female companions are unwilling to sleep.[12] The decline in use of prostitutes is also related to increased sexual availability of companions. Figure 3(B) reveals that, in fact, male Iraqis in Israel have more intercourse with companions than they would in Baghdad though not to the extent that the native-born do.[13]

Figure 3(C) allows us to expand on this story. When Iraqi males "date" native-born Israeli females, they may find companions for intercourse. Most

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[12] This is in accord with Zetterberg's (24, p. 188) Theorem I: "An actor's actions have a tendency to become dispositions that are related to the occurrence of favored uniform evaluations of the actor and/or his actions in his action system."

[13] Kingsley Davis has remarked that ". . . the unrestricted indulgence in sex for the fun of it by both sexes is the greatest enemy, not only of the family, but also of prostitution" (2, p. 755).

of them, however, "date" single Iraqi girls who, according to our findings, remain virginal in Israel. Within the Iraqi subculture in Israel, premarital intercourse on the part of females is as severely frowned upon as in Baghdad.[14] Figures 2(C) and 2(D) reveal more of what is happening. The importance of petting to orgasm increases among both Iraqi males and females in Israel. This occurs at an age when native-born Israeli petting is increasingly giving way to intercourse.[15] Liaisons which for the native-born would be consummated by intercourse tend to culminate in orgasm through petting for the Iraqis. The increase of petting is relatively greater for the Iraqi females than for the males. The female immigrant under-conforms to the native norms for intercourse but over-conforms in petting.

This sheds light on the changes in masturbation shown in Figures 2(A) and 2(B). Masturbation decreases with age for Iraqi males in Israel as it does for the native-born rather than rising as in Baghdad. Iraqi females in Israel masturbate less than in Baghdad and considerably less than native-born females. This latter finding may be related to the Iraqi females' increase in orgasms through petting. Despite the decreasing masturbation among Iraqi males in Israel, its overall importance stands above that of native-born Israelis. During the early twenties, it is even higher than what it would be in Baghdad. This is puzzling since increased petting and intercourse might be expected to depress the salience of masturbation. The finding may be due to the overall rise in their sexual activity Figure 1(A).[16] This overall increase and the marked rise in masturbation may be due to increased sexual stimulation of Iraqi males in Israel. In Baghdad, there is greater social distance between the sexes. Baghdadi males experience the relatively scantily clad females of Israel as sexually stimulating. A girl's bare shoulder has more erotic significance for them than for the native-born Israelis. Yet, the Iraqi females they associate with do not readily engage in intercourse. Further, they are still restrained by the values internalized in Baghdad

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[14] The more rapid shift in reference groups by males than females may be related to the integration of the male immigrant into the occupational structure. The female remains primarily within the family. More will be said about this below.

[15] Inspection of Tables 10 and 11 reveals a larger proportion of native-born Israeli males active in intercourse with companions than native-born Israeli females. The active females have intercourse with about twice the frequency of the active males. This suggests that each active female is available to more than one male. The larger proportion of males active also may be due to the fact that these middle-class males find some of their companions among lower-class females not in our sample.

[16] This cannot be conclusive since the overall increase, in turn, is a reflection of increased masturbation and not an independent fact. Masturbation, however, contributes more than the other behaviors to the overall increase.

about intercourse with companions. Consequently, they cannot fully express their increased drive, and so resort to masturbation. High male masturbation may also be related to the anomic situation of the new immigrant who has not yet found himself normatively and associationally in the new culture. Masturbation may serve to reduce anxiety rooted in loneliness.[17] Unresolved sexual tension may find release in spontaneous orgasm. Figures 1(C) and 1(D) show that spontaneous orgasms of Iraqi males in Israel follow a pattern similar to that of Baghdad, and that Iraqi females in Israel have fewer spontaneous orgasms than in Baghdad but more than native-born females. (Rorschach responses from this sample indicate that Iraqi females release tension through fantasy.) For the Iraqi females in Israel, increased spontaneous orgasm during their mid-twenties may be a joint function of increased petting without orgasm and decreased masturbation. In sum, the pattern of sexual behavior of Iraqis in Israel tends to change in the direction of the native-born Israeli pattern within four to five years after arrival.[18] The change is generally more marked in the case of males.

2. *Inferential Visibility of Sexual Norms*

Some mechanism of the process of sexual socialization will now be mentioned formally. Despite the fact that sexual behavior is less socially visible than other behaviors (careful interviewing was required to make it visible for this study), the compliant learnings are strikingly similar to those where new norms and values may be openly communicated.[19]

Normative visibility requires structural provisions for communicating the norms, and individual motivation to "see" them. The immigrant's motivation to perceive rests, in part, upon his desire to be accepted in his new culture.[20] Where mobility into the new culture is slow, he might especially exert himself to learn the new norms.[21] The very contrast between the new and the

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[17] This suggests a testable sociological hypothesis: masturbation is negatively associated with social integration.

[18] It would be worthwhile to trace this development according to the number of years each Iraqi was in Israel. We might find an initial period of "migration shock" accompanied by a sharp drop in social sexual behavior and a rise in solitary outlets. Iraqi behavior in Israel might more and more approach the native-born pattern the longer the immigrant is in the country. The small size of our sample precludes testing these hypotheses.

[19] Compare these findings with S. N. Eisenstadt's (3) on the learning of economic, cultural, and political norms.

[20] Elihu Katz and Paul Lazarsfeld (9, p. 52f) write, ". . . if an individual desires to attain or maintain an intimate relationship with others, or if he wants to 'get somewhere' either within a group or via a group, he must identify himself with the opinions and values of these others."

[21] Communication as "substitute for actual locomotion . . . by persons . . . who

old sexual norms would motivate the immigrant to tell it to others in his group,[22] producing a snowball effect diffusing the original intergroup observation among the immigrants.

Structural provisions for communicating the norms are rooted in relations between the groups and in changes within the immigrant society. Some social structural changes simply increase the opportunities for social sexual behaviors. One such is the shift from the patriarchal extended to the nuclear family which accompanies this migration.[23] In Iraq, equal-status males and females could meet socially in familial gatherings. In Israel, young men and women have more opportunity to see one another without family chaperonage. Educational and occupational situations also increase opportunity for intersex contacts. Most Israeli schools, in contrast to those in Iraq, are coeducational. Males and females are more likely to work side by side in office and factory, and to meet in youth movements, at summer work camps in collective settlements, and in the military. The Iraqis in the sample, as a highly educated group, are among the leaders of the immigrant community. As such, they are more likely than other immigrants to interact with native-born Israelis.[24] Interaction increases the possibilities of visibility.[25] However, the communication of the sexual norms is rarely direct. Israelis are not prone to discuss sexual behavior in social situations which are not defined as sexual. The immigrant must, in great measure, depend on inferences from situations not designed for communicating sexual norms. The norms become "inferentially visible" from environmental cues in these situations. The concept of "inferential visibility" has something in common with Miller and Dollard's (19, Chapter IX) notion of "matched dependent learning" and Merton's "implicit paradigms of cultural evaluation"

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have strong desires to locomote upward" is discussed by Harold H. Kelley (10, p. 48). On the directionality of the learning, see the contention that the "group member is more likely to imitate the behavior of those members to whom he attributes power in the group" (16, p. 59). The problem of mobility of the Iraqi immigrant in Israel society is discussed by the author in (13).

22 ". . . the greater the implication of a specific item of information for change in the immediate social behavior of a person, the greater will the impulse to tell others about it be" (5, p. 128).

23 A discussion of the implication of this migration for changes in family structure will be found in (13).

24 On the differential opportunity of leaders to acquire information, see (1), for example.

25 Norman Kaplan (8, p. 71) finds that ". . . people know the politics of others close to them because they see each other relatively frequently and talk about politics." Festinger, Schachter, and Back (5, p. 125) point out that ". . . the existence of a friendship between two people also implies the existence of an active channel of communication."

(18, p. 158).[26] Kaplan (8, p. 71) noticed that people can predict the votes of friends with whom they simply discussed politics, though not told how these friends were going to vote.

Some inferences about the norms are easy to make. For example, Iraqi students in university circles may observe that some native-born male and female students live together without severe communal condemnation. They also observe that interaction between the sexes in Israel is generally easier and more open than that which they had experienced in Iraq.

Inferences may also be drawn from negative evidence on sexual behavior. The above Iraqi students may observe the Israeli's relative nonconcern with sexual matters. Sex is not a common topic of conversation. There are few sexual graffiti. Popular music, Hebrew literature, and Hebrew theatre have relatively less sexual content than do music, literature, and theatre in Iraq. Paradoxically, this very nonconcern increases interest because of its contrast with their accustomed climate of sexual interest (5). This nonconcern also reduces anxiety which might inhibit the learning of new norms. The Iraqi students may become less afraid to attempt tentative sexual overtures to the opposite sex.

When learning is done inferentially, wrong inferences may be drawn. The immigrating Iraqi arrives with a stereotyped image of Israeli sexuality. Israeli promiscuity is a theme in Arab anti-Israel propaganda. This stereotype is reinforced when he observes Israeli women in shorts or without sleeves, men and women together on the bathing beaches, and workmen attired only in shorts. Out of his own cultural background, he interprets these observations as meaning an extreme of sexual freedom. He tries to match his own behavior and attitudes to this stereotype.[27] This steers them in the direction of the Israeli norms though it does so to an exaggerated degree. Aiming beyond the mark brings him close to the actual mark.[28]

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26 "Nor is . . . socialization confined to direct training and disciplining. The process is, at least in part, inadvertent. Quite apart from direct admonitions, rewards and punishments, the child is exposed to social prototypes in the witnessed daily behavior and casual conversations of parents. Not infrequently, children detect and incorporate cultural uniformities even when these remain implicit and have not been reduced to rules. . . . It may be tentatively inferred, therefore, that he is also busily engaged in detecting and acting upon the implicit paradigms of cultural evaluation, and categorizations of people and things . . . ."

27 The existence of such a stereotype, in part, accounts for the author's ability to interview Iraqi females on sexual behavior. There was some perception on their part that the interview procedure was a usual and accepted part of life in Israel. It symbolized a sophisticated attitude about sex which they were trying to adopt.

28 Compare Robert K. Merton's observation on the convert to the effect that ". . . apart from this matter of motivation, the convert may also be peculiarly conformist for want of having had firsthand knowledge of the nuances of allowable

F. Summary

We have shown that, for a limited sample, the sexual behavior of a new immigrant population tends to approach that of the receiving population. That sexual acculturation follows the pattern of acculturation in other fields provoked our interest since the norms guiding the former are considerably less socially visible. We have accounted for the learning, in part, through the concept of "inferential visibility."[29]

References

1. Chowdhry, K. & Newcomb, T. M. The relative abilities of leaders and non-leaders to estimate opinions of their own group. *J. Abn. & Soc. Psychol.*, 1952, **47**, 51-57.
2. Davis, K. The sociology of prostitution. *Amer. Sociol. Rev.*, 1937, **2**, 744-755.
3. Eisenstadt, S. N. Communication processes among immigrants in Israel. *Pub. Opin. Quart.*, 1952, **16**, 42-58.
4. Festinger, L. An analysis of compliant behavior. In M. Sherif & M. O. Wilson (Eds.), *Group Relations at the Crossroads*. New York: Harper, 1953. Pp. 232-256.
5. Festinger, L., & Thibaut, J. Interpersonal communication in small groups. *J. Abn. & Soc. Psychol.*, 1951, **46**, 92-99.
6. Festinger, L., Schachter, S., & Back, K. Social Pressures in Informal Groups. New York: Harper, 1950.
7. Ford, C. S., & Beach, F. A. Patterns of Sexual Behavior. New York: Harper & Hoeber, Medical Books, 1951.
8. Kaplan, N. Reference group theory and voting behavior. Unpublished Doctor's dissertation, Columbia University, 1955.
9. Katz, E., & Lazarsfeld, P. F. Personal Influence. Glencoe, Ill.: Free Press, 1955.
10. Kelley, H. H. Communication in experimentally created hierarchies. *Hum. Relat.*, 1951, **4**, 39-56.
11. Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. Sexual Behavior in the Human Male. Philadelphia: Saunders, 1948.
12. Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. H. Sexual Behavior in the Human Female. Philadelphia: Saunders, 1953.
13. Klausner, S. Z. Immigrant absorption and social tension in Israel. *Middle East J.*, 1955, **9**, 281-294.
14. ———. Sex life in Israel. In A. Ellis & A. Abarbanel (Eds.), *The En-*

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and patterned departures from the norm of the group which he has lately joined. As a result, and unlike long established members of the group who have acquired this knowledge unwittingly in the course of their socialization, the convert tries to live up to the strict letter of these norms. He becomes a rigid conformist" (18, p. 352). In our case, living up to the strict letter of the norm becomes living up to the stereotype.

[29] It is interesting to speculate about a situation where, contrary to the one we have considered, new immigrants arrive in a culture where sexual norms are more restrictive than those in their country of origin. We would predict a similar pattern of learning the new norms, but would anticipate that it would proceed more slowly since, again contrary to the present situation, the normative demand would run counter to, rather than be consistent with, sexual drives.

cyclopedia of Sexual Behavior (Vol. 1). New York: Hawthorn, 1961. Pp. 545-557.

15. ———. Sex life in Islam. In A. Ellis & A. Abarbanel (Eds.), *The Encyclopedia of Sexual Behavior* (Vol. 1). New York: Hawthorn, 1961. Pp. 558-566.

16. LIPPITT, R., POLANSKY, N., & ROSEN, S. The dynamics of power. *Hum. Relat.*, 1952, **5**, 37-64.

17. MELIKIAN, L., & PROTHRO, E. T. Sexual behavior of university students in the Arab Near East. *J. Abn. & Soc. Psychol.*, 1954, **49**, 59-67.

18. MERTON, R. K. Social Theory and Social Structure (rev. ed.) Glencoe, Ill.: Free Press, 1957.

19. MILLER, N. & DOLLARD, J. Social Learning and Imitation. New Haven: Yale Univ. Press, 1941.

20. MOORE, W. & TUMIN, M. Some social functions of ignorance. *Amer. Sociol. Rev.*, 1949, **14**, 787-795.

21. SHERIF, M. The concept of reference group in human relations. In M. Sherif & M. O. Wilson (Eds.), *Group Relations at the Crossroads*. New York: Harper, 1953. Pp. 203-231.

22. SIMMEL, G. The Sociology of Georg Simmel (trans. by Kurt Wolff). Glencoe, Ill.: Free Press, 1950.

23. WOLMAN, B. Sexual development in Israeli adolescents. *Amer. J. Psychother.*, 1951, **5**, 531-559.

24. ZETTERBERG, H. L. Compliant actions. *Acta Sociol.*, 1957, **2**, 179-201.

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Washington 6, D. C.

The Journal of Social Psychology, 1964, 63, 31-39.

SOCIAL ASPECTS OF CHANGE IN THE CHINESE FAMILY PATTERN IN HONG KONG* [1]

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A. INTRODUCTION

In recent years social anthropologists and psychologists have been studying the relationship between child-rearing practices and personality patterns in various societies. Agreement is fairly general on the hypothesis that there is a positive correlation between them—that the behavioural patterns which have met approval in childhood will tend to be the source of the values and attitudes of adulthood. Conversely, the behaviour discouraged and not valued in a child will seldom become a positive influence when the child reaches maturity. It is true that we do find extreme reversals of these value systems in individual cases, but this usually occurs when the early family environment has been atypical for that community. An example is the individual whose parents have severely restricted him on account of narrow religious views; such a person sometimes makes news headlines as a criminal.

In spite of the great diversity of personalities in any one society, there must be a central nucleus of social standards and values to which the majority of individuals give allegiance. Without such a centripetal force the society is in danger of disintegrating, and it is largely the presence of this core of values, accepted by common consent, that causes each society to produce typical personalities. As Linton says: "Societies . . . are nothing more than the organised repetitive responses of a society's members"(4).

This preamble is intended to lend validity to the assumption that evidence of similar changes in attitude or behaviour in a number of individuals may be evidence of a trend towards change in the social group as a whole; cases will be cited to indicate that such change is in process in Hong Kong.

An attempt will be made to depict the traditional Chinese family pattern and to indicate what appear to be its strengths and its weaknesses when

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viewed from the standpoint of modern, urban society. Examples will be given of individuals who are trying to break free from that traditional pattern because, to them, it appears to be maladapted to the society in which they are growing up.

B. The Traditional Chinese Family

The traditional Chinese family (3) is the large extended family that embraces several generations under one roof, the senior male being the member in whom authority resides. If his principal spouse outlives him, then all junior members defer to her out of respect if not out of obligation. Concubines and their descendants are included in the household, and any indigent relatives, however remote, may also find shelter and food there if they seek it. "Kinship" is rather elastic by modern standards and may embrace almost anyone whose ancestors claim the same village. In this system, no one is ever alone in the world, however old or young he may be. If a young child's natural mother dies, there are other "mothers" to take her place in caring for him; he is even likely to have "siblings" of his own age with whom to share his growing years. Far from being unwanted or without a place, the older a man or woman becomes, the more privileges he or she may enjoy. If anyone is physically or mentally unable to take a normal place in society, the extended family takes care of him. For this reason it would surely be impossible to find the incidence of disease or of mental defect in the community while the traditional Chinese family system prevailed. Nor would there be any reason for other than research workers to want to know such information, because the question of care in public institutions does not arise.

Many comments have been made about the low percentage of delinquency among the Chinese residents of Hong Kong and, indeed, among Chinese communities abroad. Frequently material conditions of life are poor by Western standards, but the incidence of delinquency is far below that of Westerners living in similar circumstances. The Chinese family background is usually considered to be the variable responsible. In Hong Kong, even among those who do become delinquent, attitude is seldom antisocial and the atmosphere of the institutions in which they are confined is therefore very different from that prevailing in similar institutions in Western countries.

From the psychological viewpoint then, the security given to the growing child by the traditional Chinese family is one of its great strengths. It is true that rules are rather rigid and that anyone who is too lacking in conformity may be expelled in order to preserve the harmony of the group. Conservatism rather than change is the guiding principle of the extended

family. As far as the adolescent and the young adult are concerned, dependence, materially or emotionally or both, tends to be indefinitely prolonged. In fact, even where the younger adult members of a family no longer live under the ancestral roof, their acceptance of the authority of their elders in everything which might be governed by custom is remarkably enduring. The tolerance, which sometimes causes foreigners either admiration or irritation, seems to take its strength from the early life experience of living in close contact with a large number of other individuals. Each person, as he grows up, must learn to avoid interfering with others, openly at least. He must be forebearing and restrained in order to avoid disturbing the peace of the group.

Vocational uncertainty scarcely arises; if there is a family business, the expectation is that the younger generation will prepare to take the place of the older. Nor does the personal suitability or interest of a younger member cause any problem to the head of the family; recognition of individual differences is afforded only in minor personal matters.

Finally, if one member of the extended family succeeds in finding unique prosperity in some avenue outside the family, be it through education or business, he is expected to share it with the rest of the group. Further reference will be made to this factor in a later section.

C. Some of the Causes and Aspects of Disruption

A prolonged state of war inevitably brings social disequilibrium; hence it is scarcely necessary to mention this cause of change in Chinese family life in Hong Kong. But the re-establishment of a new equilibrium entails prolonged uncertainty and disturbance in the way of life of most individuals.

Hong Kong's Chinese families derive from those who were here before the war and from those who have come from the mainland as refugees under various degrees of emotional pressure. A minority are overseas Chinese who have come by choice and for a variety of reasons. These latter persons, although comparatively few, may be seen to be quite important as cathartic agents for their less cosmopolitan brethren who are seriously disturbed by change.

Perhaps the primary impact of postwar changes on the Chinese family pattern in Hong Kong is similar to that which has brought changes to most other parts of the world; this is, the widening of the gulf of experience between the generations. Grandfather's world seems far more remote and unreal to today's children than it ever was to grandchildren before 1940. Even father's world can no longer be considered a reliable field of reference

for the adolescent of today (5). In Hong Kong, personal fortunes have been overturned in many instances. Descendants of very humble parents who were nevertheless prudent in investing their small savings in real estate have become wealthy in the postwar boom development. Many of those who came as refugees from the mainland have had to leave behind the security they enjoyed and to make their way anew. Those who were most adaptable have found new prosperity. Those who were least adaptable have tended to harbour resentment and suspicion against their neighbours, living as transients in their present environment and trying to prevent their children from being absorbed into the unfamiliar social order. In this connection the inmates of the Prisons Department Training Centres provide interesting data, both in individual case histories and collectively.[2]

The hierarchy of authority in the extended family is grossly disturbed by external circumstance in both these conditions. The young members must either submit to the old order and become misfits in their present community or reject the old order for the sake of living effectively in the present. Many of them try inconclusively to find a middle way, with varying degrees of satisfaction. It is suggested that this conflict is the source of many of the irritations foreign supervisors experience in dealing with Chinese staff in Hong Kong. As Hare (2) and others have pointed out, change in socioeconomic status and migration to a different society both present the individual with a stressful situation. In Hong Kong this is heightened by intense cultural loyalty and all the emotional force entailed thereby. The influence of Western films, radio, and television is difficult to estimate. Along with a complete array of Western clothing and gadgets, all readily obtainable if you have the money, mass media of communication bring a surging pressure towards modernism. Even Chinese food has accepted some degree of Western influence when it can add palatable variety to the already infinite variation of national dishes.

Many young persons, especially students, are able to discuss particular aspects of their culture conflict even if they are not yet mature enough to see it in general terms. Areas concerned are:

1. Diligent observance of customs in regard to the life crises. These include the raising of large sums of money for weddings and funerals, all members of the family having to play their part whatever the cost. Attention to the ceremonies must have priority over any personal commitments to work or friends. (I think of one student in particular who complained bitterly

[2] Of 236 inmates (as of August, 1961), 54 were born in Hong Kong, three in Singapore, and 179 in China.

because his mother insisted on attendance at seven successive ceremonies for his late grandmother. The student and a cousin were the only ones in their family to express their resentment, and their older relatives were shocked at their impiety. Another student was confidently seeking a government bursary because her father was financially embarrassed by the cost of his late wife's recent funeral although the family was known to be quite well off.)

2. The choice between proficiency in Chinese or English language. An unfair burden is placed on some young persons by parents' ambitious insistence on a high standard in both. For the student himself there might be an emotional conflict of personal loyalties. If he opts for Chinese, his vocational horizon is restricted even while he stays in Hong Kong. If he opts for English—to his older relatives, whose approval he highly values, he becomes a hybrid Chinese. (Observation shows that close study of a language involves some acceptance of the cultural influences associated with that language.)

3. Connected with the latter is the different material standard of living conditions. The cosy closeness of many persons living in a small space which characterises many Chinese families may become intolerable to the young "Westernised" members of the family. Minor personal habits, although insignificant in themselves, may prove to be forceful factors when interpersonal harmony hangs in the balance (e.g., the sweeping or throwing of rubbish into the street). The cost of Western-style living is higher than that of average Chinese-style living, and a junior member of a family may have to choose between his taste and his filial duty, in managing his income.

4. Cosmopolitan, urban conditions with modern commerce and industry as the economic pace-setter, determine the social environment of present-day Hong Kong. Public education, to be effective, must be geared to the needs of such a society. As Durkheim (1) pointed out half a century ago:

> It is idle to think that we can rear our children as we wish. There are customs to which we are bound to conform; if we flout them too severely, they take their vengeance on our children . . . . There is, then, in each period, a prevailing type of education from which we cannot deviate without encountering that lively resistance which restrains the fancies of dissent.

As parents in Hong Kong are outstandingly eager for their children to receive as intensive an education as possible, the result must inevitably be cumulative increase in the number of citizens who depart from traditional Chinese customs.

5. Social mobility is facilitated through the increasing availability of scholarships and bursaries sponsored by government as well as by international and religious bodies. Linked with this is an increase in the proportion of young persons who go abroad for study, usually to Western countries.

6. The change in the status of females has had a severe impact on family life all over the world, but Chinese society has been one of the most resistent in this respect. Even now we find cases of the family food being sacrificed to provide education for a son, while many a daughter has to depend solely upon her own initiative for the advantages she wins, educationally or personally, even though her ability may be better than that of her brothers.

In competition for scholarships, however, both boys and girls compete on equal terms and the proportion of educated women is increasing rapidly.

For some years the tendency to choose marriage partners has been replacing the old custom of arranged marriages in which the wife was often a person of inferior educational status to the husband. Marked difference in social outlook between parents can have a very confusing influence on a child, especially at adolescence. Perhaps it is typical of the transition period in Hong Kong that there should be many middle-class or even wealthy families in which the children and the father have a cosmopolitan education and outlook while the mother remains at heart a village woman.

If proof were needed of the changed outlook of Chinese women, the zeal with which women's organisations are pressing for revision of the marriage ordinance might be studied. Not only are they demanding the outlawing of concubinage, but they are insisting upon property and inheritance rights equivalent with those of males.

7. On account of political disharmony, there is no dynamic force for the revitalisation of Chinese customs, flowing in from China itself. Even contact with the ancestral village is considered either impossible, unnecessary, or undesirable by the majority of the middle class and the wealthy. In fact, the modern Chinese family in Hong Kong is as psychologically remote from its ancestral source as any British family which has migrated to the antipodes more than a generation ago.

Those referred to above may serve to indicate some of the ways in which Chinese families in Hong Kong are being changed.

The breakup of the extended family seems to be due to an array of forces which are operative not only in Hong Kong, but in other parts of the world as well. It is possible that the loss in early emotional security for young children is a regrettable one and that a valuable capacity for withstanding adverse material conditions will no longer characterise Chinese people. On

the other hand, the individual may have more scope for development as each person prepares to make his own way to full membership of the community.

D. Effects of These Changes

The unprecedented speedup in the rebuilding programme in Hong Kong in the last few years may be taken as tangible evidence of widespread social change. Old mansions, and even relatively new ones which have been built for the comfortable housing of an extended family of relatively close relationship, are being demolished on account of their uselessness. Married sons and daughters, and even adult unmarried ones, find themselves unable to dwell comfortably under the parental roof. Blocks of small, functional flats are in increasing demand, many of them built with little or no accommodation for servants in view of further change in prospect. On all sides one hears comments about the changed attitude of servants. They can afford to demand acceptable conditions because the demand for them is beginning to outstrip the supply. Better facilities for education and an increase in the demands of industry are beginning to modify the class-stratification which has helped to make Hong Kong essentially different from most Western countries. A do-it-yourself way of domestic life is by no means unwelcome to many young persons who have spent years abroad as students, perhaps because it is associated in their minds with the exhilaration of achieving increasing confidence in their own potential. The presence in Hong Kong of a number of overseas Chinese of the older generation as well as of the younger can lend reassurance to those of limited experience who fear the overthrow of the old ways of living.

The explosive birthrate in Hong Kong is one of the most substantial problems of the community; the traditional Chinese enjoyment of children, as well as their value for pleasing the ancestors, helps to make life for the very young a delightful adventure. But Hong Kong has such a limited area, and medical services are so efficient (in spite of all their shortcomings), that the excess of births over deaths of more than 2,000 a week is staggering in its implication. There is virtually no open door for Chinese migrants anywhere in Southeast Asia or the Pacific area. One is forced to ask, how can the increasing pressure on physical space and resource be reconciled with the increasing demand for a better material standard of living? While the Family Planning Association is able every year to expand its work, it is still not fast enough to cope with this urgent problem.

The assertion has often been made, and evidence has been given, that the rise of a middle class is correlated with a fall in birthrate in any country.

The combination of improved educational standards and of demand for a higher standard of living is seen to be incompatible with unrestricted breeding. That this process has already begun to operate in Hong Kong is clear from the family records of Diploma in Education students over the past five years. As indicated in the early part of this paper, it is felt that even a small group can be regarded as a pointer to a trend.

From this discussion it appears that changes in the pattern of Chinese family life in Hong Kong are bringing the social structure more into line with that of urban communities in other countries. Aspects of the old culture will persist in the arts, crafts, literature, and philosophy, especially as these aspects of Chinese civilization are much admired and valued throughout the world. Perhaps to these should be added the enormous international prestige of Chinese food which, in its own way, has become an unprecedented source of goodwill towards Chinese people even in countries which try to continue to look askance at Chinese migration. Therefore there seems to be no danger of a loss of cultural identity by the people of Hong Kong.

It seems possible that the changes in the traditional family pattern will tend to enhance social mobility both culturally and geographically. People who share similar social goals and standards of living usually find each other more acceptable than those whose customs set them apart. For some Chinese people there will, of course, always be a yearning for the old days when the traditional way of life gave such support to the individual wherever he found himself with a few of his compatriots however far from the homeland. Race and nationality were one, as for no other racial group in the modern world. Probably this was sustained by the emotional belonging to the ancestral village and the extended family, however great their physical distance. It is, then, a striking phenomenon that transformation should have so beset Chinese families in Hong Kong, on the very edge of the ancestral soil.

E. Summary

Based on the premise that patterns of child rearing and personality development in any particular culture tend to show a positive correlation, a study is made of family relationships in present-day Hong Kong. Against the background of the traditional Chinese family, changes are discussed with special reference to University students. It is suggested that changes in attitudes and behaviour in a significant group may indicate the prospect of wider-spread change in the community.

Causes and aspects of change are examined, examples being taken from

personal contact with students over a period of eight years. It is suggested that the traditional zest for higher education, particularly as it is a means of upward social mobility, is accelerating the cultural modification which is so apparent in Hong Kong. We have indeed a society in transition.

Anglo-Chinese schools which emphasise the value of English as a means of communication are usually preferred to Chinese schools because they lead to wider vocational horizons. But the atmosphere of these schools is not without cultural overtones which sharpen the conflict of cultural loyalty faced by the students. This in turn is reflected in attitudes within the family which tries to adhere to traditional patterns of relationship between parents and children. What is modern is usually what is foreign and therefore undesirable in the eyes of a conservative Chinese parent.

Those who are able to come to terms with their culture conflict—which is also a conflict of past with present—in return for forfeiting dependence on the extended family, will have the opportunity to develop their full potentialities as individuals living in a modern world.

References

1. Durkheim, E. Education and Sociology. Glencoe, Ill.: Free Press, 1956.
2. Hare, E. H. The ecology of mental disease. *J. Ment. Sci.*, 1952, **98** (No. 413), 579-592.
3. Lin, Y-H. The Golden Wing. London: Kegan Paul, Trench, Trubner, 1947.
4. Linton, R. The Cultural Background of Personality. London: Routledge & Kegan Paul, 1945.
5. Wright, B. R. Today's knowledge about the parent-child relationship. In K. E. Priestley (Ed.), *Constructive Work for Mental Health in Hong Kong*. Hong Kong: Hong Kong Univ. Press, 1959.

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CROSS-CULTURAL ACCEPTANCE OF STEREOTYPES TOWARDS AGING* [1]

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A. INTRODUCTION

The empirical investigations of attitudes towards aging have tended to show a predominance of negative attitudes and beliefs about the aging and the aged, subscribed to by a majority of the groups studied (2, 15, 16, 17, 18, 19, 20). Thus, the negative flavor generally characteristic of literary descriptions of old age from ancient times to the present has been found to be quite prevalent among members of our society. The beliefs and attitudes of a people are to a great extent one aspect of their overall societal structure. To this extent, insofar as the aged are concerned, the negative beliefs or stereotypes which are accepted in this country have been deemed reflective of the general role and status of the aged in contemporary America, which is generally classified as a youth-oriented society.

According to Simmons' (13) studies of primitive and preindustrialized societies, prestige and high status are accorded to those who perform functions the society values highly or finds necessary for its survival; if, for example, the society possesses no written language, the older person becomes the repository of, and transmission agent for, societal information, and is therefore valued. In our current society, such is not the case, and since the culture has been in a rapidly changing cycle with major technological advances and a chronically saturated labor market, the information and skills of the older

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person tend to be obsolete, unessential, and devalued. Low status of the aged results.

The findings of negative stereotypes towards aging, in conjunction with the writings of Barron (5), Drake (7) and others, have been interpreted as indicating a minority-group position for the aged and give further emphasis to the picture of youth orientation in American society (11). Such data and theoretical positions serve as the starting points for social theorists, welfare planners, and legislators whose tacit assumption quite often is that the phenomenon is unique to this society.

For the past few years, however, there has been an increasing awareness of the need for cross-cultural and cross-national research on all levels of the aging process (8) since, as Shanas (12) has recently written, questions have begun to arise as to the universality of such findings and attitudes since the majority of available aging data have been derived from only one country or culture.

> . . . No matter how careful a study of social behavior has been designed, whether control groups are used or not, the investigator must always recognize that perhaps all that he has demonstrated is that some phenomenon is true within a given national setting and only within this setting. The social scientist seeking generalizations about social life, therefore, must confront the basic question: can a hypothesis about social behavior be considered proved by a study carried out within a single culture . . . (12, p. 7).

Although it has been found that a large number of beliefs about the aged are widely subscribed to by different educational and occupational groups within this country, it is interesting to note that the greatest majority of such beliefs are not well supported by research evidence and are, at best, gross overgeneralizations. If an attitude is conceptualized as a predisposition to behavior, it may readily be expected that such beliefs about the aging and the aged may be manifested in societal practices and concern for older persons. From this line of reasoning, it becomes important to determine if different cultures or groups hold different beliefs about agedness. Although it is well known that different national groups care for their aged members differently (in terms of retirement policies, home care and living conditions, social welfare programs, etc.), we as yet lack comparisons of the attitudinal structure of these different societies as it pertains to old age.

At this stage in our knowledge, empirical studies of stereotyped attitudes towards aging can stand in their own right as base points for the evolution of further research. The present work represents an empirical approach to cross-

cultural attitude comparisons, drawing upon the previous studies on attitudes towards aging in the United States and comparing them to comparable groups in Great Britain, Sweden, Greece, Japan, and Puerto Rico. These countries differ considerably along such dimensions as recency and degree of industrialization, economic level, social-welfare programs for the aged, family structure, living conditions, family traditions, etc.—all factors which have previously, in one context or another, been related to relevant aspects of the life patterns of aged persons, at least for the more highly industrialized Western countries.

The original empirical studies of Tuckman and Lorge, using essentially the same items, techniques, and procedures, have been commented upon for their lack of concern with the psychological correlates of attitudes towards old people (10). The present investigation, as well as the previous studies, reflects a concern with the degree and universality of acceptance of statements about old people found in the literature. There is no assumption made that acceptance of such beliefs necessarily represents an underlying personality trait or characteristic, nor is it assumed that such beliefs are unrelated to broader psychological dimensions or factors. Investigations of such aspects of the problem are seen as later extensions of initial empirical studies such as the present one, once it has been ascertained that a stable phenomenon exists.

Using the Tuckman-Lorge items, Axelrod and Eisdorfer (4) found that of the original 137 items in the questionnaire, 96 were specifically related to age. However, since these items were evaluated only by groups of American college students, the generality of these findings remains open to question. In essence, this represents the dilemma of cross-cultural research. Although methodological refinements, such as the Semantic Differential (10) and the stimulus group ratings of Axelrod and Eisdorfer (4), have been utilized in such work since the original Tuckman-Lorge studies, demonstration of their validity, generality, and relevance in other countries is an undertaking unto itself. Consequently, the decision was made to begin the empirical comparison of stereotyped beliefs towards aging with an abbreviated form of the original items, methods, and procedures of the original Tuckman-Lorge questionnaire.

B. Method

1. *Questionnaire*

The Attitudes Towards Old People Questionnaire (1) is a 100-item list of statements about old people. The respondent checks either yes or no for each item, indicating his agreement as to whether he accepts or rejects the

statement as being generally true of old people. No attempt is made to define old age for the respondent, leaving this to his own subjective assessment as to what constitutes old age. The 100 items were chosen from the original list of 137 such statements collected by Tuckman and Lorge, and which reflect misconceptions, stereotypes, and overgeneralized beliefs about old people gleaned from both professional and lay writings.

Reliability coefficients (test-retest and split-half) ranged from .72 to .85 for the various U.S. subsamples, values deemed quite satisfactory for continued use of the questionnaire.

2. *Samples*

Six countries were chosen for investigation: the United States, Great Britain, Sweden, Japan, Greece, and Puerto Rico. Inclusion in the study was determined by ability to arrange for data collection in countries representing a range of differences in economic status, family structure, degree of industrialization, and social-welfare programs for the aged.

In order to make the different samples as equivalent as possible without undertaking a major field study, it was decided to use college students as respondents. College professors in the various countries were then contacted, and arrangements made to have the questionnaires administered to their students. The appropriate translated questionnaires were shipped to them, except for Great Britain, in which case a master copy was sent for duplication there. Although it was desired to obtain 300 cases from each country, there was the inevitable attrition due to misunderstanding, lost data, etc. The final total from each country was: the United States = 423, Japan = 184, Puerto Rico = 246, Sweden = 305, Greece = 336, England = 245.

3. *Translations*

The original English questionnaire was translated into Swedish, Spanish, Greek, and Japanese. In each instance, translation was performed by a bilingual national of the respective country, residing in the United States. In this manner, differences in meaning were minimized and it was fairly certain that the same ideas were being communicated in the different languages. The translated questionnaires were then given to another bilingual national for translation back into English as a further check upon comparable meaning.

C. Results

The mean per cent agreement (true) was calculated for each item, by country. These per cents (Table 1) then served as the basic data for all

TABLE 1

PER CENT AGREEMENT (TRUE) WITH STEREOTYPE ITEMS FOR ALL COUNTRIES

Items	Countries: United States	Japan	Puerto Rico	Sweden	Greece	England	χ^2
Old people	N = 423	184	246	305	336	245	
Conservatism							
40. dislike any changes or interference with established ways of doing things	84	89	91	88	94	93	50.22*
57. are conservative	91	91	95	81	93	87	43.16*
70. respect tradition	96	99	97	98	98	94	23.22*
74. resist any change	54	28	25	56	84	77	295.28*
39. are tight in money matters	44	62	48	93	73	41	270.93*
Activities and interests							
17. become more interested in religion	75	94	94	84	96	64	134.66*
21. just like to sit and dream	30	46	77	76	87	37	372.66*
36. take a keen interest in politics	28	15	41	37	59	24	149.03*
76. collect many useless things like string, paper, and old shoes	37	67	60	58	74	54	111.64*
79. like to think about the past	95	97	99	96	98	96	20.68*
Financial							
19. are a burden to their children	27	24	14	13	31	37	81.70*
23. are unproductive	24	62	37	26	70	47	222.09*
25. are a burden to society	16	12	7	10	18	22	35.36*
37. worry about financial security	71	64	74	65	80	68	46.83*
61. have too much power in business and politics	6	33	33	21	41	29	177.23*
67. cannot manage their own affairs	14	31	38	14	45	24	134.68*
78. hide their money	20	56	70	55	85	35	386.09*
86. are unable to handle their own finances	15	44	23	14	36	20	103.91*
Physical							
18. have many accidents resulting in injury in the home	48	29	56	26	65	62	136.24*
28. become easily fatigued	93	94	89	83	92	90	11.96
35. are untidy and careless about their appearance	14	23	55	17	51	22	221.12*

TABLE 1 (*continued*)

Items	Countries						
	United States	Japan	Puerto Rico	Sweden	Greece	England	χ^2
Old people							
55. are helpless	4	47	6	16	40	12	279.31*
66. worry about their health	82	91	78	78	93	77	75.87*
77. have poor coordination	61	89	62	44	78	74	148.60*
87. fail in emergencies	23	54	53	46	68	34	182.94*
88. are slow	78	93	79	84	88	90	40.00*
89. do things with great care and precision	66	53	73	88	72	71	85.88*
90. take jobs away from younger persons	4	18	1	11	29	16	142.06*
98. are very concerned with keeping up with younger people	24	39	39	22	23	18	63.90*
100. tend to become more like other older people as they age	74	91	73	40	72	71	157.65*
Family							
8. are proud of their children	98	90	96	96	97	92	43.66*
10. are not important in family affairs	13	26	9	15	40	16	127.01*
13. are better off in an old-age home	9	21	11	33	11	13	121.40*
14. expect their children to support them	20	77	38	35	63	34	264.32*
31. feel that their children neglect them	47	59	40	33	80	44	190.96*
41. are usually supported by their children	41	92	76	35	78	50	306.13*
45. expect obedience and respect from their children and grandchildren	88	95	98	78	96	85	100.86*
54. feel that young parents do not know how to bring up children	57	69	90	68	89	73	139.27*
91. exert a stable influence on the younger generation	61	51	40	78	75	56	148.69*
Personality							
4. are kind	89	55	89	90	75	83	132.52*
6. get upset easily	59	55	58	51	77	64	70.25*
7. prefer to live alone	14	12	48	42	36	25	153.08*
9. are set in their ways	91	90	63	92	73	92	150.48*
11. are grouchy	17	67	58	16	80	33	509.57*
16. are easily moved to tears	40	72	47	44	65	45	120.35*
29. are very generous	65	36	79	56	47	59	149.79*
30. are in their second childhood	17	82	74	50	83	30	498.39*

TABLE 1 (*continued*)

Items	Countries						
	United States	Japan	Puerto Rico	Sweden	Greece	England	χ^2
Old people							
33. prefer old friends rather than make new ones	83	92	71	81	93	91	68.41*
43. are very gentle	80	27	66	80	50	70	253.12*
47. are honest	92	54	93	93	86	85	193.91*
48. are bossy	34	90	64	2	73	45	526.03*
51. like to gossip	65	88	55	46	71	83	167.22*
58. are very talkative	61	57	77	84	60	68	74.76*
59. are stubborn	67	95	84	76	85	79	89.06*
63. make friends easily	48	26	73	62	32	31	196.49*
64. are suspicious of others	38	67	61	41	78	43	181.18*
68. have few friends	22	64	23	23	69	37	302.31*
71. are selfish	10	76	28	28	65	29	396.31*
81. are very lonely	58	85	44	48	75	63	120.77*
82. are very proud	80	70	56	55	67	72	77.80*
85. have even tempers and dispositions	43	25	18	77	59	47	253.11*
93. become more philosophical and do not let minor upsets worry them	43	20	58	56	68	55	154.97*
95. tend to take a broader view of situations than do younger persons	52	43	79	68	65	48	93.42*
96. show wisdom and knowledge	82	49	89	84	86	70	147.71*
97. show sound judgment	70	24	83	78	51	60	239.47*
99. are careful thinkers	61	76	71	70	79	59	58.30*
Attitude toward the future							
24. think the world is headed for destruction	14	22	71	15	74	40	481.13*
32. worry about death	54	58	49	27	78	37	224.76*
44. worry about the future	55	62	49	41	74	54	92.63*
60. believe in a life after death	76	74	65	57	84	85	94.24*
65. think the future is hopeless	12	55	46	14	59	25	310.49*
Best time of life							
2. are in the happiest period of their lives	9	7	17	22	13	11	51.78*
34. would like to live their lives over again	45	65	82	40	92	38	316.23*
69. never had it better	9	18	10	44	18	29	234.58*

TABLE 1 (*continued*)

Items	Countries						
	United States	Japan	Puerto Rico	Sweden	Greece	England	χ^2
Old people							
84. now have a chance to do all the things they have wanted to do	20	47	20	35	32	23	108.08*
94. have no ambition	13	67	33	20	34	52	233.62*
Insecurity							
12. worry about unimportant things	62	81	76	77	83	65	80.22*
20. feel sorry for themselves	35	66	53	30	77	44	217.01*
80. are difficult patients when ill	56	84	79	40	90	67	248.59*
83. have a high suicide rate	7	7	7	2	6	6	13.96
Mental deterioration							
1. are absent minded	55	61	66	15	68	64	222.72*
5. cannot learn new things	17	53	17	35	59	48	225.62*
15. forget more things than they used to	89	93	87	89	89	85	13.15
26. become insane	2	2	3	13	7	17	92.06*
27. are wise because of their long experience	64	51	67	83	77	64	77.59*
50. cannot concentrate well	45	63	65	28	75	77	213.74*
52. become less intelligent	24	48	45	28	75	50	233.11*
53. frequently talk to themselves	54	83	84	71	88	55	176.47*
75. cannot remember names	42	65	45	53	68	66	90.02*
92. make too many errors	13	25	35	10	53	17	223.27*
Sex							
42. marry persons younger than themselves	31	58	55	47	64	34	145.85*
49. have no interest in the opposite sex	19	59	46	21	45	38	167.76*
56. are good-looking	33	12	27	54	19	22	170.43*
73. should not marry	11	29	60	48	75	28	387.90*
Interference							
3. spoil their grandchildren	75	89	91	75	80	83	61.68*
22. are hard to get along with	20	47	40	15	44	27	123.14*
38. are critical of the younger generation	77	88	93	67	88	85	80.44*
46. meddle in other people's affairs	33	80	53	26	74	42	271.05*
62. like to give advice	93	92	99	94	99	95	31.12*
72. frequently quarrel with their children and relatives	36	49	68	17	73	39	291.52*

* Significant beyond .01 level: $p.01 = 16.75$, 5 *df*.

future analyses. An overall chi square[3] for each item by countries yielded significant differences beyond the .01 level in all instances except for items 28, 83, and 15. While the overall differences in per cent agreement to the individual items are statistically significant, inspection of Table 1 shows that the magnitude of the differences is often quite small so that the practical meaning of the differences is often negligible.

As a guide to understanding the obtained differences and to drawing conclusions as to the trends by country, an overall stereotype score for each country was desirable. In this manner, a continuum could be shown for degree of acceptance of the stereotypes. Consequently, a mean per cent agreement score was obtained for each country by averaging the per cent agreement per item across the 100 items. Table 2 presents the overall stereotype scores in order of increasing magnitude. The significance of the difference between the obtained per cents was tested for each country compared to each other country by the Dixon and Massey (6, p. 232) equivalent of chi square. While the scores reflect an overall trend in increasing agreement to the stereotypes, significant differences ($p < .05$) were found only for the comparisons of Greece with the United States, Sweden, and England.

TABLE 2
OVERALL AGREEMENT WITH STEREOTYPE SCORES BY COUNTRY

	United States	Sweden	England	Puerto Rico	Japan	Greece
Average per cent agreement	46.0	49.4	52.2	56.6	57.3	66.5

Since the ultimate interest lies in the differences between countries on the individual items, further item analyses were conducted. Chi-square comparisons were made for each country with every other country for each of the 100 items. Table 3 presents the chi-square values for each comparison. The level of significance was set at 1 per cent. For clarity and ease in determining where significance was obtained, nonsignificant values were omitted from the table.

D. Discussion

The meaning and use of the data can be seen on several levels. On the grossest level, as primary empirical evidence for differences in attitudes towards and beliefs about aging and agedness, it opens the door to hypothesis

[3] All analyses were carried out at the University of Miami computer center on a 1620 computer. We wish to thank Dr. Earl Weiner for his gracious statistical assistance.

TABLE 3

COUNTRY × COUNTRY χ^2 ANALYSIS OF AGREEMENT WITH STEREOTYPES ON ALL ITEMS

Items	U.S. *vs.* Japan	U.S. *vs.* P. Rico	U.S. *vs.* Sweden	U.S. *vs.* Greece	U.S. *vs.* England	Japan *vs.* P. Rico	Japan *vs.* Sweden	Japan *vs.* Greece	Japan *vs.* England	P. Rico *vs.* Sweden	P. Rico *vs.* Greece	P. Rico *vs.* England	Sweden *vs.* Greece	Sweden *vs.* England	Greece *vs.* England
Old people															
Conservatism															
40. dislike any changes or interference with established ways of doing things				15.5	8.2								14.6		
57. are conservative			15.2				9.2			22.2			18.1		
70. respect tradition	102.5	12.3				69.9	104.5	58.7			15.9				
74. resist any change	31.8	41.9		78.9	34.2		23.9	160.6	97.9	32.1	182.1	113.9	79.7	36.4	
39. are tight in money matters	16.8		185.6	63.2			70.4		18.4	134.5	34.6		42.6	173.3	58.8
Activities and interests															
17. become more interested in religion	30.0		7.9	55.3	9.1	9.4	10.8		18.1			22.8	21.4	28.5	92.9
21. just like to sit and dream	14.0	121.8	144.6	237.2		38.3	41.7	94.5				71.6	12.5	81.8	152.2
36. take a keen interest in politics	11.6	10.8		71.4		32.3	28.0	92.0			15.0	17.0	28.1	13.1	72.7
76. collect many useless things like string, paper, and old shoes	40.5	22.4	29.6	93.4	16.9						12.6		15.6		21.9
79. like to think about the past															
Financial															
19. are a burden to their children		9.4	23.8				12.7				16.8	24.7	35.5	46.9	
23. are unproductive	80.7	12.3		157.2	37.4	22.3	43.7		9.1		51.9		92.8	13.9	24.3
25. are a burden to society									8.8		9.5	18.2	10.6	10.6	
37. worry about financial security				8.2				15.8					22.8		13.6
61. have too much power in business and politics	76.9	87.4	57.5	128.2	73.8								13.0		
67. cannot manage their own affairs	22.4	38.2		83.8	8.5		19.8	8.2					69.6		26.7
78. hide their money	73.1	144.1	105.7	313.9	14.5	8.0		54.6	19.4		17.4	56.6	60.5	29.8	160.4
86. are unable to handle their own finances	58.8			44.3		18.8	48.8		28.5		9.7		35.3		17.5

TABLE 3 (*continued*)

Items	U.S. *vs.* Japan	U.S. *vs.* P. Rico	U.S. *vs.* Sweden	U.S. *vs.* Greece	U.S. *vs.* England	Japan *vs.* P. Rico	Japan *vs.* Sweden	Japan *vs.* Greece	Japan *vs.* England	P. Rico *vs.* Sweden	P. Rico *vs.* Greece	P. Rico *vs.* England	Sweden *vs.* Greece	Sweden *vs.* England	Greece *vs.* England
Old people															
Physical															
18. have many accidents resulting in injury in the home	17.6		29.4	20.6	10.7	26.8		58.2	42.1	39.4			85.3	61.1	
28. become easily fatigued		116.7		111.6	7.9	42.9		35.6		77.2		49.5	70.5		42.3
35. are untidy and careless about their appearance	152.5		22.8	144.7	11.5	89.1	55.0	60.9		9.0	81.8		49.0		54.5
55. are helpless				19.8		10.2	16.1		15.0		27.1		40.3		37.3
66. worry about their health	47.0		20.4	24.1	8.9	34.6	97.8	9.4	16.8	17.1	13.5		77.6	45.2	
77. have poor coordination	51.2	52.3	35.5	149.6	9.1			10.1	14.7		14.6		34.8		62.9
87. fail in emergencies	18.6			11.6	10.4	8.9									
88. are slow															
89. do things with great care and precision	9.3		39.9			14.9	68.8	19.7	12.0	16.4			19.7	24.3	
90. take jobs away from younger persons	28.8		12.3	85.7	27.7	29.6				16.7	62.1	27.9	28.8		11.2
98. are very concerned with keeping up with younger people	12.4	15.9					10.5	13.1	24.1	13.2	16.5	28.5			
100. tend to become more like other older people as they age	19.5		69.9			20.7	105.5	20.5	22.2	45.5			57.0	42.9	
Family															
8. are proud of their children	19.5				16.9		7.9	8.3							
10. are not important in family affairs	12.0			71.6		14.0		11.6			55.3		38.9		39.1
13. are better off in an old-age home	13.8		72.7				11.0	8.3		36.8			52.6	33.9	
14. expect their children to support them	170.2	23.4	15.6	144.2	19.2	54.7	82.9	8.8	67.6		30.3		56.1		41.7
31. feel that their children neglect them			18.3	85.1		12.6	35.3	26.3	9.3		87.4		155.1	8.5	81.7

TABLE 3 (*continued*)

Items	U.S. *vs.* Japan	U.S. *vs.* P. Rico	U.S. *vs.* Sweden	U.S. *vs.* Greece	U.S. *vs.* England	Japan *vs.* P. Rico	Japan *vs.* Sweden	Japan *vs.* Greece	Japan *vs.* England	P. Rico *vs.* Sweden	P. Rico *vs.* Greece	P. Rico *vs.* England	Sweden *vs.* Greece	Sweden *vs.* England	Greece *vs.* England
Old people															
41. are usually supported by their children	131.1	74.4		100.3		17.0	154.7	14.5	81.2	96.5	33.9		124.6	15.0	46.6
45. expect obedience and respect from their children and grandchildren		21.8	10.5	18.7			21.7		11.0	47.2		30.6	48.6		28.1
54. feel that young parents do not know how to bring up children	11.0	75.1	10.1	89.5	16.1	27.3		29.8		32.9		21.3	37.2		23.1
91. exert a stable influence on the younger generation		25.5	39.5	14.5			51.7	25.6		104.2	66.1	13.3		42.7	18.2
Personality															
4. are kind	85.3			25.0		61.1	65.2	19.9	34.6		17.1		17.1		
6. get upset easily				24.7				25.5			24.5		52.9	12.6	10.4
7. prefer to live alone		8.9	63.1	50.0	9.2	58.1	40.9	32.8	30.2					16.2	10.3
9. are set in their ways		78.0		41.8		36.3		17.1		61.3		52.5	32.2		27.3
11. are grouchy	141.4	104.8		302.1	20.8		156.0	12.2	46.8	120.8	33.0	26.7	302.9	35.4	134.3
16. are easily moved to tears	51.1			48.7		26.1	36.3		34.8		20.1		31.3		29.4
29. are very generous	42.8	10.6	12.8	58.9		69.5	10.7		19.9	36.0	86.4	19.6	13.8		25.5
30. are in their second childhood	223.6	186.3	88.0	319.5	11.6		46.1		113.7	26.3		86.3	77.4	24.7	170.2
33. prefer old friends rather than make new ones	8.4	11.5		14.8		27.6	10.7				43.7	28.9	18.0	9.8	
43. are very gentle	146.2	14.1		74.7		59.2	129.5	20.9	72.8	13.5	15.4		64.9		23.9
47. are honest	116.4			8.3	10.4	84.7	99.3	59.2	43.9			8.6	8.3	10.3	
48. are bossy	145.3	43.3	114.9	100.5		38.4	378.6	18.7	94.9	235.6		17.6	330.2	136.5	50.7
51. like to gossip	33.4		29.6		24.5	49.2	90.9	15.3			16.5	40.3	52.7	85.1	
58. are very talkative		15.5	38.3			17.0	36.7				14.8		36.0	15.8	
59. are stubborn	51.1	14.2		32.9		16.2	37.9	9.2	23.8				18.4		
63. make friends easily	26.3	37.7	16.5	18.4	19.5	92.9	65.2				90.5	87.1	60.6	58.8	
64. are suspicious of others	42.6	31.2		120.7			31.3		21.3	21.1	20.3	12.6	92.7		69.4

TABLE 3 (*continued*)

Items	U.S. *vs.* Japan	U.S. *vs.* P. Rico	U.S. *vs.* Sweden	U.S. *vs.* Greece	U.S. *vs.* England	Japan *vs.* P. Rico	Japan *vs.* Sweden	Japan *vs.* Greece	Japan *vs.* England	P. Rico *vs.* Sweden	P. Rico *vs.* Greece	P. Rico *vs.* England	Sweden *vs.* Greece	Sweden *vs.* England	Greece *vs.* England
Old people															
68. have few friends	97.3			162.8	17.6	61.5	93.0		28.9		99.2	8.8	149.0	19.3	54.9
71. are selfish	258.3	36.1	42.4	247.0	34.3	80.0	97.5		93.6		62.5		81.1		76.6
81. are very lonely	38.5	10.2		23.0		65.7	57.4		21.2		50.6	16.9	42.5	10.5	7.9
82. are very proud		36.6	55.6	14.3			11.6					9.6	12.2	16.3	
85. have even tempers and dispositions	15.0	33.9	88.2	16.9			126.7	48.4	23.6	170.2	78.2	44.4	27.7	47.7	
93. become more philosophical and do not let minor upsets worry them	28.2	16.6	23.0	44.6	8.7	65.7	76.8	105.2	52.2						8.9
95. tend to take a broader view of situations than do younger persons		44.7	15.2	10.2		54.9	25.2	19.9		8.8	13.8	49.4		20.1	15.0
96. show wisdom and knowledge	66.7				11.9	78.7	68.9	82.2	18.5			24.6		16.0	22.3
97. show sound judgment	107.6	13.0	9.6	27.3		146.8	149.0	34.3	53.9		61.2	30.3	59.2	26.6	
99. are careful thinkers	11.0			29.0					12.6						29.0
Attitude toward the future															
24. think the world is headed for destruction		201.2		280.1	51.1	91.0		130.5	12.3	150.7 26.6	51.4	46.6	212.3 175.4	32.2	75.6 109.8
32. worry about death			56.6	48.4	21.6		47.0	25.5	20.0		37.0		69.7		31.4
44. worry about the future			12.9	28.5		5.4	17.1	9.2			28.3	25.3	56.3	48.8	
60. believe in a life after death		8.5	27.6	8.0			13.3								
65. think the future is hopeless	119.3	80.2		186.5	14.4		82.4		41.0	52.4	10.6	20.9	131.3		72.0
Best time of life															
2. are in the happiest period of their lives		9.3	26.9			9.6	21.0						12.2	10.8	
34. would like to live their lives over again	19.4	79.7		184.1		15.6	17.2	61.4	26.1	71.7	11.2	85.7	166.9		186.2
69. never had it better	8.5		142.0	13.0	94.3		43.0		24.3	77.6		51.1	65.0		35.6

TABLE 3 (*continued*)

Items	U.S. *vs.* Japan	U.S. *vs.* P. Rico	U.S. *vs.* Sweden	U.S. *vs.* Greece	U.S. *vs.* England	Japan *vs.* P. Rico	Japan *vs.* Sweden	Japan *vs.* Greece	Japan *vs.* England	P. Rico *vs.* Sweden	P. Rico *vs.* Greece	P. Rico *vs.* England	Sweden *vs.* Greece	Sweden *vs.* England	Greece *vs.* England
Old people															
84. now have a chance to do all the things they have wanted to do	38.5		10.2	11.2		28.1	9.8	9.3	28.7		8.3				
94. have no ambition	171.4	34.9		47.0	113.4	96.3	101.7	47.1	8.7	10.2		17.3	15.3	58.1	16.4
Insecurity															
12. worry about unimportant things	20.5	12.0	17.1	42.4					10.5						22.5
20. feel sorry for themselves	45.8	15.3		128.3			59.6		19.5	25.8	35.1		143.6	11.5	66.7
80. are difficult patients when ill	42.0	27.8	17.9	103.8	10.7		88.3		11.5	70.3	13.3		177.4	45.7	39.2
83. have a high suicide rate			9.6							8.0					
Mental deterioration															
1. are absentminded			95.3	15.7			91.5			124.1			162.1	108.1	
5. cannot learn new things	84.1		32.1	144.5	69.7	58.8	14.7			20.1	97.7	46.7	35.4		7.9
15. forget more things than they used to															
26. become insane		25.5		46.2		15.6		25.1		12.1			25.2		10.9
27. are wise because of their long experience	9.3		20.9	12.0		11.3	45.1	33.8		9.1				19.0	11.1
50. cannot concentrate well	15.1	23.6	17.7	68.2	60.2		50.7	8.6	8.8	67.4			132.0	117.5	
52. become less intelligent	30.7	31.1		186.5	48.3		16.4	36.5		15.6	49.7		131.6	27.4	33.4
53. frequently talk to themselves	45.4	61.2	14.1	95.5			12.7		35.4	18.2		46.9	34.2	8.7	73.5
75. cannot remember names	24.3			46.1	32.2	14.7	8.0				26.4	18.8	17.4	11.1	
92. make too many errors	15.5	43.9		141.0			17.3	34.4		42.8	18.7	14.8	124.9		68.7
Sex															
42. marry persons younger than themselves	38.0	38.0	34.2	82.8					23.0			21.6	8.6	18.2	50.6
49. have no interest in the opposite sex	145.3	43.3		100.5	38.4		378.6	18.7	94.9	235.6		17.6	330.2	136.5	50.7

TABLE 3 (*continued*)

Items	U.S. *vs.* Japan	U.S. *vs.* P. Rico	U.S. *vs.* Sweden	U.S. *vs.* Greece	U.S. *vs.* England	Japan *vs.* P. Rico	Japan *vs.* Sweden	Japan *vs.* Greece	Japan *vs.* England	P. Rico *vs.* Sweden	P. Rico *vs.* Greece	P. Rico *vs.* England	Sweden *vs.* Greece	Sweden *vs.* England	Greece *vs.* England
Old people															
56. are good-looking	26.4		35.3	17.1	8.8	10.9	85.8			46.8			86.7	61.0	
73. should not marry	29.2	160.9	135.1	305.0	36.3	34.7	20.2	95.0			11.0	38.4	36.5	22.6	108.0
Interference															
3. spoil their grandchildren	15.0	26.2	17.9								11.4				
22. are hard to get along with	46.0	31.4		49.1			55.3		16.2	40.4		8.4	57.7	11.2	14.7
38. are critical of the younger generation	9.6	23.3		16.8			22.6			42.9			37.0	18.7	
46. meddle in other people's affairs	109.3	21.7		123.3		33.9	129.9		59.2	36.7	29.8		144.6	14.9	59.3
62. like to give advice		10.4		13.3		10.5		13.0		9.5			11.8		
72. frequently quarrel with their children and relatives	8.1	51.4	40.6	104.1		12.5	66.0	31.4		144.3		33.6	223.4	41.9	68.8

Note: $\alpha.01 = 7.88$, 1 *df*.

generation as to the role of social, economic, psychological, and political factors in the establishment of these beliefs and as to their relative importance in the functioning of the aged in the respective societies. One of the primary goals of the study was to provide basic data for the generation of such hypotheses.

Although differences of considerable magnitude can be seen for many of the items in the country-by-item comparisons (Table 1), one cannot help but be struck by the overall ubiquitousness of the beliefs, transcending geography, education, and cultural differences. Aging is accompanied by many stereotyped beliefs, and these in turn are predominantly negative in outlook, regardless of the country involved. While it is certainly true that a questionnaire such as this is loaded in a negative direction, prior evidence (3) has shown that free association to the concepts of aging and agedness also produces predominantly negative connotations.

While continued research has shown that, at least for the average person, many of these stereotypes are based more upon fact than fancy, a major question still remains unanswered and awaits further research: How much of what is observed in the aging process, both physical and mental, is the result of a self-fullfilling prophecy? In modern psychological theory, man is seen as constructing his future, behaving and moving in directions calculated to fulfill his expectations (9). Societies tend to be age graded, with expectations and appropriate roles determined by many years of tradition and societal function, and far less by individual assessment and actual capabilities. The roles, statuses, and physical and psychological characteristics of different stages in the life cycle are soon learned and incorporated into one's belief system and personal economy. Here they function as predispositions to behavior, personal and interpersonal, serving to construct the future for the individual as well as his peers. Thus the wide acceptance of these beliefs about the concomitants of aging cannot be taken as some sort of proof that they actually do occur, but rather that these beliefs themselves play a role in setting the stage for the person to behave in the manner expected by these overgeneralized behavioral expectations.

The major contribution of the data as they stand is in enabling social scientists to place the attitudes towards aging of persons in this country in their proper perspective. For some years, from the vantage point of the social and behavioral scientists, it has become quite usual for articles dealing with the social role of the aged in contemporary American society to chastise us for our attitudes. We have been placed on the defensive and castigated for the "youth orientation" of America; our attitudes towards the aged are negative and are a further reflection of planned obsolescence and the tendency to throw

things away because they are old . . . of our lack of concern with beauty, truth, human resources, and excellence, and our overemphasis upon materialism (11). Stated or implied, this is somehow always contrasted with modern Western European countries, where it is *assumed* that the situation is better. But is it?

E. Conclusions

Whatever the limitations of the current data, comparable groups of young persons, representing the intellectual elite of the countries sampled, responded to the same items about aging and agedness. Perusal of the overall stereotype scores, as well as the per cent agreement to the individual items, is revealing. The acceptance of the stereotype, more often than not, is less in the United States than it is elsewhere.

We have just scratched the surface in the study of the aging process; its determinants, correlates, and end results. Whatever the defects of current society and glacierlike movement in improvement of the status of the aged, castigation of our attitudes and beliefs and fallacious comparisons with other societies are fruitless (14). The aged and the aging were a problem in primitive society, are a problem in preindustrialized society, remain a problem in modern society, and will become more so in the future. The aging process and the aged themselves, whether a minority or a majority group, are integrally involved in total society. Their roles, statuses, care, and function are intimately related to the economics and politics of the culture, population growth, technological unemployment, and the birth rate itself. How stereotyped beliefs about aging are related to these other factors remains a problem for further social-behavioral research. American attitudes towards agedness, however, are not unique, and in many instances are more favorable than those entertained in other countries.

References

1. Arnhoff, F. N., & Lorge, I. Attitudes Toward Old People: Form T. New York: Columbia Univ. Institute Psychological Research, 1959.
2. ———. Stereotypes about aging and the aged. *School & Society,* 1960, **88**, 70-71.
3. Arnhoff, F. N., Freeman, L. C., & Parlagreco, M. L. Projected symptoms of old age and present personal assessment. *J. Gen. Psychol.,* 1960, **62**, 37-41.
4. Axelrod, S., & Eisdorfer, C. Attitudes toward old people: An empirical analysis of the stimulus-group validity of the Tuckman-Lorge questionnaire. *J. Geront.,* 1961, **16**, 75-80.
5. Barron, M. L. Minority group characteristics of the aged in American society. *J. Geront.,* 1953, **8**, 477-482.
6. Dixon, W. J., & Massey, F. J. Introduction to Statistical Analysis. New York: McGraw-Hill, 1957.

7. DRAKE, J. T. The Aged in American Society. New York: Ronald Press, 1958.
8. INTERNATIONAL ASSOCIATION OF GERONTOLOGY. The Need for Cross-National Surveys of Old Age. Ann Arbor: Univ. Michigan, 1956.
9. KELLY, G. A. The Psychology of Personal Constructs (Vol. 1). New York: Norton, 1955.
10. KOGAN, N. Attitudes toward old people: The development of a scale and an examination of correlates. *J. Abn. & Soc. Psychol.*, 1961, **62**, 44-54.
11. ROSOW, I. Old age: One moral dilemma of an affluent society. *Gerontologist*, 1962, **2**, 182-191.
12. SHANAS, E. Some observations on cross-national surveys. *Gerontologist*, 1963, **3**, 7-9.
13. SIMMONS, L. The Role of the Aged in Primitive Societies. New Haven: Yale Univ. Press, 1945.
14. SLATER, P. E. Cultural attitudes toward the aged. *Geriatrics*, 1963, **18**, 308-314.
15. TUCKMAN, J., & LORGE, I. The effect of institutionalization on attitudes toward old people. *J. Abn. & Soc. Psychol.*, 1952, **47**, 337-344.
16. ———. When aging begins and stereotypes about aging. *J. Geront.*, 1953, **8**, 489-492.
17. ———. Attitudes toward old people. *J. Soc. Psychol.*, 1953, **37**, 249-260.
18. ———. Perceptual stereotypes about life adjustments. *J. Soc. Psychol.*, 1956, **43**, 239-245.
19. ———. The projection of personal symptom into stereotypes about aging. *J. Geront.*, 1958, **13**, 70-73.
20. ———. Attitudes toward aging of individuals with experiences with the aged. *J. Genet. Psychol.*, 1958, **92**, 199-204.

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RACIAL ETHNOCENTRISM AND JUDGMENT OF BEAUTY*

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A. INTRODUCTION

"Beauty is in the eye of the beholder," according to an ancient adage. This assertion bears strongly on the central problem of this paper: namely, "What is the relationship between racial group membership and judgment of female beauty by males?" The general theoretical premise of the study is that *the standards for judgment of female facial beauty are essentially cultural in character,* but they are also influenced by "racial" averages of features.[1] In other words esthetic ethnocentrism is presumed to be largely cultural but partly based upon the "racial" average for facial features. A female whose facial features approximate the average for her "race" (read *society*) would be considered beautiful according to this formulation. Such a person would be statistically unusual of course: a female who was average (mean) with respect to nose, chin, forehead, lips, eyes, etc., including proportionality and position, would be highly exceptional in the same sense that a "royal flush" is a rare hand in poker. It is not contended that beauty is simply to be equated with being average on all facial features, because cultural standards may place a premium upon certain deviations, but it seems dubious that a face with particular features unusually large or small or with ones irregularly spaced would be considered beautiful.

More specifically, however, this research concerns the question of judging female facial beauty by males of three "racial groups," in an effort to determine whether they share common or divergent esthetic norms. It was hypothesized that (*a*) the beauty judgments of American whites and American Negroes would show a high positive correlation, (*b*) the beauty ratings of the whites would be more highly correlated with the independent ranking of the females on a Negroid-Caucasoid racial scale than would be the beauty rankings of the American Negroes, and (*c*) the beauty rankings of African

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[1] For the viewpoint of an anthropologist on this issue see Weston LaBarre (2, pp. 156-157). LaBarre reminds us that beauty is a matter of cultural relativity and that, "It takes a conscientiously cultivated sense of artistic 'genre' even to see the beauty in other races . . . ."

subjects would be closer to those of American Negroes than American whites and that they would show some bias towards the more Negroid females in their judgments.

B. Procedures

In order to determine the relationship between racial-group membership and judgment of female beauty, it was decided to select a series of photographs of Negro females for ranking on the basis of attractiveness by white and by Negro American males and by African Negro males. The pictures were taken at random from *Ebony* and *Sepia* magazines and were presumably all Negro women. The 10 photographs were trimmed and mounted on 3-by-5-inch index cards so that only the head was visible. The subjects were asked to arrange the 10 pictures according to attractiveness. The subjects consisted of 50 male American Negroes (interviewed by a Negro) and 50 male American whites (interviewed by a Caucasian) of "college age" in the City of Chicago[2] (some of whom may have been college students), and 50 male African Negroes of approximately the same age group from Lagos, Nigeria. In addition, 15 judges, all social scientists, were asked to rank the photographs from "most Negroid and least Caucasian to least Negroid and most Caucasian." This permitted a comparison between this variable and the beauty ratings of the three categories of subjects.

C. Results

The rankings of the 10 photographs by judges (from least Negroid to most Negroid) and the beauty ratings of the three samples (from most attractive to least attractive) are presented in Table 1. Table 2 contains the rank-order correlations of the beauty ratings among the three samples plus the correlations between race rating and the beauty ratings of the samples.

D. Interpretation and Conclusions

These data generally support the proposition that American whites and American Negroes share a common esthetic standard for judging beauty in the female face and confirm the thesis that Caucasian features are considered to be more attractive than Negroid features in American society. The high correlations between the beauty ratings of American Negroes and American

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[2] The author is indebted to two of his students, John A. Gustafson and Robert T. Marshall, for interviewing the Chicago sample. He is also indebted to Dr. Preston Valien and the staff of the U. S. Information Service in Lagos, Nigeria, for conducting the survey there.

TABLE 1
RANKING OF FEMALE PHOTOGRAPHS ON RACIAL CONTINUUM BY JUDGES AND ON BEAUTY BY AMERICAN WHITES, AMERICAN NEGROES, AND AFRICAN NEGROES

	Race rating		Beauty ratings		
	15 judges		50 American whites	50 American Negroes	50 African Negroes
Most Caucasian → Least Negroid →	Female E (1.00)	Most attractive →	Female E (1.30)*	Female A (1.88)*	Female E (2.15)*
	B (2.53)		J (2.66)	E (1.92)	J (2.34)
	A (4.87)		I (3.22)	I (3.34)	B (4.35)
	F (4.87)		B (3.76)	J (4.36)	D (5.04)
	J (5.33)		A (5.20)	B (4.94)	A (5.14)
	I (5.40)		G (5.76)	G (5.54)	C (5.78)
← Least Caucasian ← Most Negroid	H (6.53)	← Least attractive	D (6.20)	D (6.08)	H (6.56)
	G (6.73)		H (8.20)	H (8.58)	G (6.72)
	D (7.93)		C (9.26)	F (9.14)	I (7.60)
	C (9.73)		F (9.34)	C (9.28)	F (9.39)

* Mean rank.

TABLE 2
CORRELATIONS OF BEAUTY RATINGS OF SAMPLES AND OF RACE RATINGS AND BEAUTY RATINGS

Variables	Rho
Beauty ratings, American whites and American Negroes	.86
Beauty ratings, American Negroes and African Negroes	.44
Beauty ratings, African Negroes and American whites	.64
Race ratings of judges and beauty ratings of American Negroes	.60*
Race ratings of judges and beauty ratings of American whites	.55*
Race ratings of judges and beauty ratings of African Negroes	.36*

* A positive correlation means a positive association between beauty rating and a rating as more Caucasoid, less Negroid.

whites, plus the association between their beauty ratings and the race ratings of the judges, leads one to conclude that *there is essentially a single cultural standard in polyracial American society for the judgment of female facial beauty: namely, the Caucasian facial model.* One might say that Negroes have been culturally assimilated on this score. (Whether or not the ideal model for female facial beauty in American society has been influenced by Negroid features is debatable, but these findings cast some doubt over whether it has.) It is noteworthy, for example, that American Negroes and American

whites were in almost complete agreement on the most attractive and the least attractive females; female E was ranked as most attractive by American whites and was only .04 shy of being ranked first by American Negroes (see Table 1), and female C was ranked as least attractive by American Negroes and missed being last among the American white sample by only .08 (see Table 1). In any event, the rho correlation of .86 is impressively high. Also, there is a moderately close association between the beauty ratings of the two American samples and the judges' ratings on a racial scale; both American Negroes and American whites judged the more Negroid females to be less attractive.

The judgments of the Africans (Nigerians) were, surprisingly, in closer agreement with American whites than with American Negroes (a correlation of .64 as compared to .44). As expected, however, the Africans' beauty judgments were less highly correlated with the judges' racial ratings than were the two American samples (see Table 2). Apparently the Africans find the more Negroid features more attractive than do American whites and Negroes, and yet their beauty rankings were positively correlated with Caucasian facial features (as ranked by the judges), which was contrary to expectation. Perhaps the sample in Nigeria has been influenced by English norms for judging feminine facial beauty, in view of the previous colonial status and the present Commonwealth membership. English and American movies, TV programs, magazines, etc., are apparently commonplace in Lagos, and there are a number of European residents, visitors, diplomats, and businessmen there as well.

These findings could also be interpreted as an indication of the relative lack of anti-white prejudice on the part of American Negroes. It is obvious that they did not manifest any strong pro-Negro, anti-white sentiment in their rankings. On the other hand, the white males showed a rather marked preference for the females of Caucasian features and a concomitant dislike for the more Negroid females. This is consistent with comparisons of the intensity of the prejudice of whites towards Negroes and Negroes towards whites; Negroes ordinarily do not object to having white neighbors, attending the same schools with whites, sitting next to whites on busses, etc. (3,4). The critical question concerning the relationship between prejudice and judgment of beauty, of course, is which comes first. Does the prejudice induce perception which results in an unfavorable judgment on beauty, or does the unfavorable judgment on beauty induce prejudice? It seems dubious that prejudice would be simply and entirely due to physical attractiveness in the strict sense; at least current theories of prejudice do not favor such an interpretation.

Another implication of these results is the implicit conflict in norms and values for Negro males in American society. They are confronted with one set of standards which defines female beauty in essentially Caucasian terms, but there are rather rigid barriers and sanctions prohibiting association with white females; furthermore, there is some normative emphasis upon "race pride," which seems to run counter to any unfavorable judgment of the beauty of Negro females. Consequently there is an implicit premium placed upon "Caucasoid features" in the "Negro" female. This conclusion is supported by evidence from a study dealing with attitudes towards physical appearance among Negro adolescents. Mozell Hill reported that 40 per cent of the adolescents expressed a preference for a mate with Caucasian features in contrast with only 5 per cent who would choose a mate with "typical Negroid features" (1). This condition creates frustrations and tensions—in short, a dilemma for both Negro males and females.

An interesting corollary issue of the general question of racial ethnocentrism and judgment of beauty is the implicit norms for the judging in international beauty contests. Since different racial groups are represented, the question arises as to how physical differences will be evaluated in terms of beauty; presumably there is a "single standard" of some sort, because there are not divisions for different racial groups in these contests. The same question arises in contests in American society when there are contestants who are of Negro descent, Hawaiians of Oriental descent, etc. In American colleges and universities it is not unusual nowadays for a female student of Negro descent to be elected as a "beauty queen," although these winners are usually rather Caucasoid in facial features.

In the long run, biological mixture and the development of cosmopolitan cultural norms throughout the world should result in more of a common standard for judging human beauty. Meanwhile, cultural ethnocentrism and cultural dominance seem to be controlling factors.

References

1. Hill, M. C. Social status and physical appearance among Negro adolescents. *Soc. Forces,* 1944, **22** (4), 446.
2. LaBarre, W. The Human Animal. Chicago: Univ. Chicago Press, 1955.
3. Westie, F. R., & Howard, D. H. Social status differentials and the race attitudes of Negroes. *Amer. Sociol. Rev.*, 1954, **19** (5), 580-591.
4. Westie, F. R., & Westie, M. L. The social-distance pyramid. *Amer. J. Sociol.*, 1957, **63** (2), 191.

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ATTITUDES AND ADJUSTMENT PROBLEMS OF AFRICAN STUDENTS IN INDIA*

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A. INTRODUCTION

This paper contains a report on an attempt to investigate the attitudes and the adjustment problems of African students in India. Many African students are coming to India to pursue higher studies at its universities. There have been periodic reports both in the press and elsewhere that these students are meeting with many difficult problems, especially in social adjustment. The present investigation seeks to make an objective study of African students' grievances and Indian attempts to remedy them.

B. PROCEDURE

1. *Tests*

Two tests were used: (*a*) an adaptation of the Bogardus Social Distance Test and (*b*) a general questionnaire consisting of the following 20 questions.

1. Where do you live in India?
2. Briefly describe the major adjustment problems that you had to face after coming to this country. What is needed is not difficulties regarding academic matters like admission, curricula, etc., but regarding social matters—i.e., forming friendships, feeling of loneliness and being out of place, etc.
3. Have you formed many friendships in India (*a*) among students? (*b*) among the general public?
4. If not, what do you think is standing in the way?
5. What kind of food are you having? Are you satisfied with it? Do you like Indian food? If not, give reasons.
6. Describe the nature of your contacts with Indians in your home town in Africa.
7. Did you read any books on India prior to coming to this country? If so, please state titles and authors.
8. How were you affected by these books?

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9. Mention three episodes or incidents in the history of India, learned at school or elsewhere, which you remember most vividly.
10. What conclusions did you draw regarding the nature and characteristics of Indians based on these incidents?
11. Have you travelled much in India since your arrival? If so, give details of places visited, duration, etc.
12. How do you spend your leisure time?
13. What in your opinion are the chief causes that stand in the way of free social intercourse between Africans and Indians in India?
14. Do you approve of intermarriages? (Indians marrying African girls and Africans marrying Indian girls)? Please give reasons.
15. Mention any manners or customs of Indians which appear to be peculiar or revolting to you.
16. Do you think there is colour prejudice in India? On what incidents have you based your conclusions? Give details of incidents and episodes on which you base your conclusion.
17. Do you think that the average African student is intellectually inferior or superior to the average Indian student?
18. Has your opinion of Indians undergone a change in any way after your stay in India? If so, state original opinion and change.
19. Do you think that Africans are in some ways sexually superior to Oriental races? If so, what exactly in your opinion constitutes this superiority—e.g., sexual apparatus, potency, or erotic technique?
20. Do you believe that Indians are sexually loose—i.e., are not governed by as strict a moral code as the Americans are, have less qualms about seducing women or resorting to prostitutes?

2. *Subjects*

The subjects, 50 in number, were all African students studying in the universities and colleges of India in many cities like Agra, Allahabad, Banaras, Bangalore, Baroda, Bombay, Calcutta, Delhi, Jaipur, Madras, Manipal, Patna, Trichy, Trivandrum, and Waltair. The largest number was at Delhi. The 50 subjects were drawn from many parts of Africa—Kenya, Uganda, Tanganyika, Zanzibar, Northern and Southern Rhodesia, Ghana, Nigeria, the Cameroons, Nyasaland, and the Sudan. The majority of them were Christians —43, while a few were Muslims—7. Among them, 20 were students of the humanities, 10 of science, and 20 of professional courses. All subjects were in the age range of 22 to 27 years.

The duration of stay in India ranged from one to four years. The investigation was carried out and completed between June, 1961, and April, 1962. There were then 260 African students in India. Many of them held Government of India or other scholarships, while some had come at their own expense. The two tests in booklet form were mailed to 165 students. Out of 65 questionnaires returned, 15 were incomplete.

TABLE 1

SHOWING THE REACTIONS OF AFRICAN STUDENTS ($N = 50$) TOWARD 10 NATIONALITIES IN PERCENTAGE IN THE BOGARDUS SOCIAL DISTANCE TEST

F = favourable ("any" and "most"); NL = neutral ("some"); Uf = unfavourable ("few" and "no")

Nationalities	As visitors in my country			To live and work in my country			To full citizenship			To my school or university, profession or occupation			To my club			To my home			To close kinship by marriage		
	F	NL	UF	F	NL	UF	F	NL	UF	F	NL	UF	F	NL	UF	F	NL	UF	F	NL	UF
1. Canadians	60	28	12	14	36	48	6	16	78	38	36	26	50	18	30	52	26	22	14	8	78
2. French	52	22	26	12	20	66	4	8	88	40	32	28	48	20	32	40	28	32	14	14	72
3. Japanese	66	22	12	30	22	46	12	14	74	46	28	26	50	22	26	50	26	24	16	16	68
4. British	62	26	12	16	32	52	6	12	82	48	20	32	42	20	38	44	30	24	12	16	72
5. Indians from India	66	22	12	12	34	52	4	16	80	38	30	32	44	22	32	46	20	34	16	16	68
6. Chinese	52	18	30	6	32	62	2	14	84	26	32	42	36	20	44	32	30	38	8	12	80
7. Afrikaners	30	8	62	2	6	92	2	6	92	12	6	82	12	4	84	12	8	80	4	6	90
8. Indian settlers in Africa	44	28	28	18	22	60	6	20	74	34	20	46	38	8	54	32	20	48	14	8	78
9. Koreans	54	24	22	8	34	58	4	22	74	30	32	38	34	24	42	34	28	38	10	14	76
10. Americans	50	24	26	14	32	54	4	14	82	36	30	34	36	26	38	34	30	36	14	8	78

C. Results

The results are given in Tables 1 through 7. An important finding of this enquiry is that the African students who were not willing to give full citizenship to any of the 10 nationalities were greater in number than those who were not willing to intermarry with them. In the case of Indians from India, only 68 per cent of the African students were against intermarriage, whereas 80 per cent were not willing to give them full citizenship (Table 1). This indicates that political rights like "full citizenship" were more valued by them than the right to intermarry. This would confirm Gunnar Myrdal's finding that Negroes in the United States of America attach more importance to citizenship than to intermarriage.

Another significant result of Table 1 is that the highest percentage of African students (ranging from 62 per cent to 92 per cent) were not willing to admit all 10 nationalities to any of the seven categories of relationships mentioned.

The three most significant groups for our enquiry in the Social Distance Test were Afrikaners (score: —37.30; rank 10), Indian settlers in Africa (score: —9.12; rank 8), and Indians from India (score: —1.80; rank 3) (Table 2). The prejudice against Afrikaners is understandable. White-Black

TABLE 2

Showing the Scores for Each Nationality and the Ranking Made by the African Students ($N = 50$) in the Bogardus Social Distance Test

Nationalities	Score[a]	Rank
Canadians	+ 0.34	2
French	— 6.98	5
Japanese	+ 1.58	1
British	— 2.18	4
Indians from India	— 1.80	3
Chinese	— 9.84	9
Afrikaners	—37.30	10
Indian settlers in Africa	— 9.12	8
Koreans	— 8.64	7
Americans	— 7.10	6
Total score	—81.04	

[a] A plus mark indicates the absence of prejudice and a minus mark indicates the presence of prejudice.

tension in the Republic of South Africa is bound to have its repercussions throughout the Continent. Indian settlers in Africa do not seem to have behaved in such a way as to endear themselves to the native inhabitants. Hence the negative score against them is not surprising. There must be some carry-over of this into the attitude towards Indians from India. Nevertheless it

must be borne in mind that only students who are favourably disposed towards Indians would accept scholarships to study here.

Not only did some of the coloured nationalities (like Koreans, Indian settlers in Africa, and the Chinese) get negative marks, but they were ranked below some of the white nationalities: i.e., British, French, and Americans. From this we could infer that the African students are not necessarily more prejudiced against white nationalities than against coloured ones.

Tables 3 and 4 show the variations in the attitude of African students

TABLE 3

SHOWING THE MEAN AND THE STANDARD DEVIATION OF THE 10 DIFFERENT NATIONALITIES IN THE SOCIAL DISTANCE TEST

Nationalities	Mean*	*SD*	SE_M
Canadians	+ 0.62	23.98	3.39
French	— 6.94	27.68	3.91
Japanese	+ 2.02	27.57	3.89
British	— 2.32	23.91	3.38
Indians from India	— 1.76	25.01	3.53
Chinese	— 9.46	25.63	3.62
Afrikaners	—35.50	23.56	3.33
Indian settlers in Africa	— 8.90	30.38	4.29
Koreans	— 7.92	26.74	3.78
Americans	— 6.80	28.13	3.97

* A plus mark indicates the absence of prejudice and a minus mark indicates the presence of prejudice.

TABLE 4

SHOWING THE CRITICAL RATIOS OF THE DIFFERENCES BETWEEN 10 DIFFERENT NATIOALITIES IN THE SOCIAL DISTANCE TEST

Nationalities		1	2	3	4	5	6	7	8	9	10	Averages
Canadians	1		1.22	0.27	0.36	0.23	1.78	7.34	1.51	1.44	1.18	1.78
French	2			0.89	0.89	0.98	0.47	5.56	0.34	0.18	0.02	1.17
Japanese	3				0.06	0.05	1.40	6.54	1.19	1.08	0.86	1.37
British	4					0.11	1.44	7.00	1.21	1.10	0.86	1.45
Indians from India	5						1.52	6.96	1.28	1.19	0.95	1.47
Chinese	6							5.29	0.10	0.29	0.49	1.42
Afrikaners	7								4.89	5.47	5.54	6.06
Indian settlers in Africa	8									0.17	0.36	1.23
Koreans	9										0.20	1.24
Americans	10											1.16

against various nationalities. The critical ratios were consistently high in the prejudice scores of African students between Afrikaners and all other nationalities. They were all significant at the 1 per cent level, as they were above 2.58. The average of the critical ratio in the case of Afrikaners was very high

(6.06), while regarding other nationalities it was not statistically significant, ranging from 1.16 to 1.70.

Splitting up the results of the Social Distance Test into two groups, white and coloured nationalities, we would find that the prejudice score of African students against the former was nearly double to that of the latter (Table 5).

TABLE 5
SHOWING THE CRITICAL RATIO OF THE WHITE AND THE COLOURED NATIONALITIES IN THE SOCIAL DISTANCE TEST

Nationalities	Mean	Difference	*SD*	Critical ratio
Whites	—52.70			
		—26.40	22.15	1.19
Coloureds	—26.30			

Tables 6 and 7 reveal that those African students who had formed friendship with Indians and Indian settlers showed lack of prejudice towards the same. This finding seems to be in favour of the popular view that friendship decreases prejudice.

The answers obtained by the General Questionnaire throw some light on the type of adjustment problems that African students in India had to face. It was alleged by 38 per cent of the African students that forming friendships with Indians was extremely difficult. Among the reasons given for this were the general feeling of reserve among Indians, their conservatism, and their indifference towards Africans as such and repulsion for their colour. Many of the students claimed that the Indian society was very rigid and orthodox. Some of the students (24 per cent) remarked that they had no occasion to visit Indian families, while some others (22 per cent) alleged that they had a perpetual feeling of loneliness and of being out of place in the country. Inadequate knowledge of English and geography among Indians was given as another cause by 16 per cent, while 12 per cent said that the Indian climate was too hot.

Some of the subjects (22 per cent) referred to the difficulties caused by different social backgrounds, while 18 per cent complained of being stared at and made the subject of contemptuous remarks. The majority (78 per cent) of the African students were having the Indian style of food, and a minority (22 per cent) were taking food prepared in the Western style. Of the majority group, 74 per cent did not like Indian food as it was both hot and oily. Food and its eating are important aspects of social life. The lack of the right type of food seems to have some effect on Indo-African relationships in India.

TABLE 6

SHOWING THE MEAN AND THE STANDARD DEVIATION OF THE SCORES OF THE AFRICAN STUDENTS DIVIDED INTO FOUR GROUPS ON THE BASIS OF THEIR DEGREE OF FRIENDSHIP WITH INDIANS

	N	Mean	*SD*
Those who have formed friendship with the students	36	+1.64	20.16
Those who did not make friendship with the students	13	—7.23	31.85
Those who have formed friendship with the general public	25	+1.04	23.87
Those who did not make friendship with the general public	24	—2.54	24.29

TABLE 7

SHOWING THE MEAN SCORES AND THE CRITICAL RATIOS OF THE AFRICAN STUDENTS IN THE SOCIAL DISTANCE TEST DIVIDED INTO THREE GROUPS ON THE BASIS OF THE NATURE OF THEIR CONTACT WITH THE INDIAN SETTLERS IN AFRICA

Nature of contact	Mean[a]	Difference	*SD*	Critical ratio
Seen them about but never spoken to them	—19.75	12.52	10.01	1.25
Business acquaintance	— 7.23			
Seen them about but never spoken to them	—19.75	18.65	12.52	1.49
Intimate friendship	+ 1.10			
Business acquaintance	— 7.23	6.13	10.01	0.61
Intimate friendship	+ 1.10			

[a] A plus mark indicates the absence of prejudice and a minus mark indicates the presence of prejudice.

Difference in social setup—i.e., culture, customs, manners, interests, general background, and way of life—was mentioned by 38 per cent of the African students as the chief cause preventing free social intercourse between Africans and Indians. Indians' devotion to religion (by 30 per cent), caste-consciousness (by 30 per cent), and colour-consciousness (by 24 per cent) were mentioned as the next biggest barriers. A third factor mentioned by 20 per cent was the strange conception that Indians in general had about Africans, while the same percentage of subjects referred to the lack of opportunities for social mixing with Indian girls.

In reply to question 18, 76 per cent of the African students alleged that their opinion about India and her people had undergone a change after a few years of stay in the country. Among these students, 44 per cent originally

had a good opinion while 32 per cent originally had formed a bad opinion about India. The percentage of subjects whose opinion about India and her people had undergone a change for the worse (50 per cent) was approximately double that of those subjects whose opinion had undergone a change for the better (26 per cent). There were repeated references to colour prejudice among Indians (80 per cent).

From the general tenor of the answers it was evident that the African student in India was strongly westernized. He liked Western food, ballroom dancing, and night life, and was impatient of typically oriental failings like spitting, belching, and asking personal questions. This orientation so affected his image that it is perhaps one of the causes for hesitation and confusion in the Indian attitude towards him.

D. Summary

The major conclusions from the present enquiry may be summarized as follows:

1. African students have more prejudice against Indian settlers in Africa than against Indians from India.
2. Their prejudice against Afrikaners is very high.
3. Political rights like "full citizenship" are more valued by the African students than the right to intermarry.
4. Forming friendship with Indians seems to have some effect in reducing prejudice among African students.
5. There seems to be a marked deterioration in the favourable attitude of African students towards Indians because of the experiences of Africans in the country.
6. In the minds of the African students, there is a strong belief that Indians have a high amount of colour prejudice.

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NATIONAL STEREOTYPES OF UNIVERSITY STUDENTS IN KARACHI*

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A. Introduction

In a previous paper Zaidi and Ahmad (6) analysed the national stereotypes of Dacca University students in East Pakistan. Since then studies of a similar type have been reported from India (3). The present paper is a continuation of our previous study, but this time the subjects are students of another university in the west wing of Pakistan. This will be the second report from this wing of Pakistan, the first being a study in Lahore (4).

The group in general is not as homogeneous as was our group in the Dacca study. Karachi has absorbed the largest share of migrant Muslims from various parts of India. They left India in 1947 or later and came to Karachi in search of a permanent home. As a result, the population of Karachi since 1947 has increased fivefold. The people who have now settled in Karachi come from as divergent regions of India as Mysore, U.P., Bihar, Bombay, Hyderabad, East Punjab, and Central Provinces. The students of the University of Karachi are sons and daughters of the majority of such migrants. Most of the respondents in the present study were below 10 years of age at the time of Independence in 1947. Studies have shown that attitude formation begins quite early and by the age of 10 most of our attitudes are fully formed (1). Besides, certain prejudices and beliefs have an historical origin and may form part of the social heritage of individuals. The assumption of the present study, therefore, is that our universe is heterogeneous in spite of the fact that a majority of the respondents have lived in the same city for over 10 years and have grown up in a fairly homogeneous educational system.

B. Procedure

Respondents were 214 Pakistani Muslim students of the University of Karachi. There were 104 male and 110 female students from the Faculties

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of Arts and Science. They constituted a 10 per cent random sample of all the postgraduate students of the University. The average age of the male students was 21.9 and that of the female, 21.1 years.

Each selected student was contacted and requested to participate in the study. Each one was given a choice about disclosing his or her name on the questionnaire. The instructions were printed on the questionnaire and each respondent was given about 30 minutes to fill in the questionnaire. Normally the questionnaire was given in a group of 30 students.

C. Questionnaire

The questionnaire consisted of two parts, I and II. Part I was a simple list of qualities attributable to the various national groups. Part II was intended to get at comparative evaluation of two groups so as to furnish some additional data for the study. The questionnaire along with the instructions is given below.

I

The following list of adjectives characterizes certain national groups. Selecting one or more of these adjectives, please write against the national group to which in your opinion these qualities fit most:

Lazy, Cunning, Emotional, Tolerant, Honest, Dishonest, Hardy, Greedy, Selfish, Bribe-taking, Ambitious, Ill-behaved, Democratic, Intolerant, Straightforward, Patriotic, Superstitious, Open-minded, Shy, Aggressive, Shrewd, Generous, Proud, Hot-tempered, Reserved, Intelligent, Simple, Liberal, Opportunistic, Rude, Gentle, Sincere, Traitorous, Showy, Formal, Idealistic, Grave, Artistic, Religious, Sexy, Cowardly, Cruel, Diplomatic, Peace-loving, Hospitable, Mean, Crooked, Friendly, Rowdy, Brave, Cool, Faithful, Dull, Drunken, Dutiful, Inefficient, Warmongering, Faithless, Well-behaved.

Name of the National Groups

Americans are generally .....
Burmese are generally .....
Chinese are generally .....
British are generally .....
French are generally .....
Germans are generally .....
Japanese are generally .....
Negroes are generally .....
Russians are generally .....
Turks are generally .....
Arabs are generally .....
Pakistani are generally .....
Indians are generally .....

II

The following statements indicate your preference of one group to another. Please fill in the gap with one or more adjectives from the list given under (I).

Americans are more ..... than British
Americans are more ..... than Russian
Americans are more ..... than Chinese
Americans are more ..... than French
Russians are more ..... than Chinese
Russians are more ..... than French
Russians are more ..... than Germans
Chinese are more ..... than Japanese
Britishers are more ..... than Germans
Chinese are more ..... than Indians
Indians are more ..... than Russians
Britishers are more ..... than Russians
Indians are more ..... than Pakistani
Arabs are more ..... than Turks
Germans are more ..... than Indians
Pakistanis are more ..... than Turks
Pakistanis are more ..... than Americans

TABLE 1
NUMBER OF RESPONDENTS ASSIGNING TRAITS TO EACH NATIONAL GROUP

Traits	Americans	Burmese	Chinese	British	French	Germans	Japanese	Negroes	Russians	Turks	Arabs	Pakistani	Indians
Lazy	5	27	8	0	5	0	1	6	0	2	16	38	20
Cunning	37	2	12	79	10	5	6	4	19	2	3	3	42
Emotional	21	0	12	2	27	10	8	12	3	10	15	22	6
Tolerant	8	13	5	4	6	7	2	2	3	4	6	13	2
Honest	16	13	10	12	3	17	11	6	8	13	38	21	2
Dishonest	26	0	1	21	10	0	1	1	8	1	6	20	51
Hardy	27	7	39	13	2	69	38	40	27	21	10	4	5
Greedy	27	4	4	21	9	1	0	6	12	4	14	10	39
Selfish	36	3	3	37	8	3	2	0	22	6	3	9	41
Bribe-taking	2	0	0	5	3	0	0	3	0	0	5	31	17
Ambitious	33	2	16	12	6	43	17	3	29	9	5	11	9
Ill-behaved	11	3	0	8	8	0	1	13	4	2	5	9	11
Democratic	70	2	3	26	5	2	3	3	7	7	1	13	13
Intolerant	5	0	1	4	6	5	1	7	9	1	3	2	9
Straightforward	19	5	5	5	4	12	3	5	6	2	7	5	0
Patriotic	17	10	38	38	6	53	46	13	26	45	27	34	16
Superstitious	2	18	18	9	4	2	17	31	0	2	7	10	31
Open-minded	23	1	10	6	8	12	4	3	4	9	5	5	1
Shy	0	19	6	2	1	0	6	9	0	2	3	19	7
Aggressive	11	0	13	3	2	16	5	12	24	4	3	0	12
Shrewd	6	3	8	10	7	6	4	2	7	5	0	2	6

TABLE 1 (*continued*)

Traits	Americans	Burmese	Chinese	British	French	Germans	Japanese	Negroes	Russians	Turks	Arabs	Pakistani	Indians
Generous	14	11	5	2	4	5	8	1	3	7	14	8	0
Proud	31	0	7	36	12	13	9	1	31	10	7	0	2
Hot-tempered	5	2	1	6	8	11	2	22	20	6	13	3	2
Reserved	2	6	8	39	5	5	5	2	14	2	2	0	2
Intelligent	24	0	14	21	4	53	33	2	30	5	6	10	3
Simple	5	67	21	1	1	4	15	30	3	8	24	37	17
Liberal	10	0	6	7	6	12	7	5	4	3	3	2	1
Opportunistic	27	0	8	20	6	4	5	0	18	4	1	5	27
Rude	7	1	1	16	6	4	2	12	13	0	1	2	11
Gentle	4	14	4	9	13	8	16	7	2	12	10	13	3
Sincere	1	5	8	3	5	18	17	5	7	10	10	13	1
Traitorous	2	0	1	2	5	1	1	3	7	1	2	2	8
Showy	25	2	0	14	25	1	3	0	1	4	0	8	7
Formal	5	6	1	18	8	2	2	1	3	2	1	1	1
Idealistic	4	2	9	6	15	6	7	2	8	5	7	8	1
Grave	0	1	2	2	0	1	0	2	1	0	0	1	0
Artistic	1	3	22	0	48	4	44	3	0	2	0	0	5
Religious	1	28	16	2	2	1	21	6	2	13	79	67	24
Sexy/Romantic	31	0	6	12	63	2	5	12	4	3	9	6	3
Coward	1	1	2	1	4	0	0	6	0	1	2	2	34
Cruel	1	0	11	6	15	6	10	10	14	4	9	0	8
Bad	5	0	0	7	3	0	0	0	5	0	1	1	13
Diplomat	29	0	4	59	7	6	2	1	25	5	2	1	42
Peace-loving	6	20	10	2	5	2	20	5	9	11	7	62	4
Hospitable	1	3	3	0	3	9	6	1	0	10	84	24	4
Mean	5	0	1	14	8	0	0	0	5	0	0	1	30
Crooked	2	1	2	15	4	1	0	1	9	2	1	1	14
Friendly	12	14	12	1	4	15	13	8	7	7	18	333	3
Rowdy	6	0	0	0	0	0	3	9	4	0	2	1	1
Brave	2	1	20	4	3	41	16	21	15	75	50	23	2
Cool	3	12	6	5	6	4	7	1	4	4	1	4	4
Faithful	1	4	12	2	1	22	15	14	3	9	28	22	2
Dull	1	6	4	2	3	0	1	19	0	1	5	12	6
Drunken	36	0	5	21	45	3	0	1	2	0	4	0	1
Dutiful	13	3	12	26	1	24	9	8	18	10	9	1	2
Inefficient	1	4	1	1	0	0	1	12	0	1	6	27	8
Warmonger	3	0	5	1	3	14	3	10	22	7	4	0	11
Faithless	17	1	2	11	4	1	2	1	16	4	2	4	29
Well-behaved	11	5	7	25	8	12	13	0	2	11	13	19	5
Median	35.5	34.0	20.0	40.0	32.0	35.0	23.5	21.5	16.0	38.0	42.5	34.0	26.0

D. Analysis of Results

Tables 1 and 2 respectively give the number of respondents, both males and females, choosing a particular trait for each group in reply to parts I and II of the questionnaire. Table 3 represents the three most frequently assigned traits for each of the 13 national groups. Here, as in previous studies (4,6)

TABLE 2

SHOWING THE NUMBER OF RESPONDENTS CHOOSING ONE NATION IN PREFERENCE TO ANOTHER IN RESPECT OF CERTAIN TRAITS

Traits	Respondents
	No. preferring Americans to British
Democratic	28
Cunning	19
Open-minded	14
Showy	13
Friendly	13
	No. preferring Americans to Russians
Peace-loving	17
Democratic	15
Diplomatic	12
Proud	11
Intelligent	11
	No. preferring Americans to Chinese
Democratic	16
Intelligent	16
Selfish	10
Greedy	8
Opportunistic	8
	No. preferring Americans to French
Proud	11
Intelligent	10
Showy	10
Diplomatic	9
Democratic	9
	No. preferring Russians to Chinese
Aggressive	18
Hardy	11
Intelligent	11
Cruel	10
Hot-tempered	10
Diplomatic	10
Proud	10
	No. preferring Russians to French
Hard-working	14
Intelligent	14
Aggressive	11
Ambitious	10
Hot-tempered	9
	No. preferring Russians to Germans
Dutiful	11
Intelligent	9
Hard-working	8
Selfish	8
Warmongering	8
Aggressive	8

TABLE 2 (*continued*)

Traits	Respondents
	No. preferring Chinese to Japanese
Simple	14
Brave	14
Artistic	12
Religious	11
Superstitious	10
Friendly	10
	No. preferring British to Germans
Cunning	30
Diplomatic	27
Democratic	14
Reserved	12
Proud	9
Showy	9
Selfish	9
	No. preferring Chinese to Indians
Brave	28
Peace-loving	23
Friendly	14
Honest	11
Hardy	9
Patriotic	9
	No. preferring Indians to Russians
Religious	20
Cunning	18
Faithless	16
Dishonest	15
Diplomatic	12
	No. preferring British to Russians
Cunning	20
Diplomatic	19
Well-behaved	11
Selfish	9
Intelligent	9
	No. preferring Indians to Pakistanis
Selfish	21
Cowardly	19
Dishonest	12
Superstitious	12
Lazy	11
	No. preferring Arabs to Turks
Hospitable	56
Religious	37
Brave	24
Generous	10
Simple	9

TABLE 2 (*continued*)

Traits	Respondents
	No. preferring Germans to Indians
Hardy	41
Intelligent	36
Brave	17
Patriotic	17
Honest	14
	No. preferring Pakistanis to Turks
Religious	50
Simple	20
Lazy	12
Hospitable	12
Peace-loving	11
	No. preferring Pakistanis to Americans
Simple	20
Religious	19
Honest	18
Faithful	18
Peace-loving	17

the extent of agreement for the three most frequently assigned traits varies greatly from group to group. Thus, whereas the range of the number of responses for Americans is from 36 to 70 and for the British 39 to 79, the corresponding range for Russians and Indians is 29 to 31 and 42 to 51 respectively. Since in many cases the respondents did not assign any adjective to a number of national groups, we cannot calculate the percentage for the assigned responses in terms of our total number—214—who participated in the study. In order, therefore, to present a better picture of the stereotypes of our respondents, 50 or more responses for any national group have been separately given in Table 4. It appears from Table 4 that four national groups (viz., Russians, Chinese, Japanese, and Negroes) were assigned traits by less than 50 respondents—i.e., less than 21 per cent of the total number of students participating in the study.

For purposes of comparison with other studies conducted in Pakistan and India, and also because of the nature of the data, the present study has followed the classical technique of analysing the stereotypes (2). Data in Table 1 give the list of traits assigned by the respondents to each national group. If we take the usual course of selecting responses above 50 per cent (i.e., 107 as indicative of stereotypes), we do not get any idea of our respondents' stereotypes, because none of the national groups used in the study has been assigned traits by more than 50 per cent of the respondents. This has also been the reason for not including the measures of dispersion in the analysis of

results. Instead, the median of the total responses made for each national group has been taken as the most adequate measure of central tendency for the present data. The traits assigned to any national group by the number of respondents above the median have been taken as reflecting their stereotypes.

E. Conclusions and Discussion

The following stereotypes are indicated from the analysis of the present data.

Americans: Democratic, Cunning, and Drunken.

Burmese: Simple.

Chinese: Hardy, Patriotic, Artistic, Simple, and Brave.

British: Cunning, Diplomatic.

French: Sexy, Artistic, and Drunken.

Germans: Hardy, Patriotic, Intelligent, Ambitious, and Brave.

Japanese: Patriotic, Artistic, Hardy, and Intelligent.

Negroes: Hardy, Superstitious, Simple, and Hot-tempered.

Russians: Proud, Intelligent, Ambitious, Hardy, Patriotic, Diplomatic, Aggressive, Selfish, Warmongering, Hot-tempered, Cunning, Opportunistic, Dutiful, and Faithless.

Turks: Brave, and Patriotic.

Arabs: Hospitable, Religious, and Brave.

Pakistanis: Religious, Peace-loving, Lazy, Simple, and Patriotic.

Indians: Dishonest, Cunning, Diplomatic, Selfish, Greedy, Cowardly, Superstitious, Mean, Faithless, and Opportunistic.

TABLE 3
Showing Three Most Frequent Responses

National group	Responses
Americans	Democratic, Cunning, Selfish.
Burmese	Simple, Religious, Lazy.
Chinese	Hardy, Patriotic, Artistic.
British	Cunning, Diplomatic, Reserved.
French	Romantic (Sexy), Artistic, Drunken.
Germans	Hardy, Patriotic, Intelligent.
Japanese	Patriotic, Artistic, Hardy.
Negroes	Hardy, Superstitious, Simple.
Russians	Proud, Intelligent, Ambitious.
Turks	Brave, Patriotic, Hardy.
Arabs	Hospitable, Religious, Brave.
Pakistanis	Religious, Peace-loving, Lazy.
Indians	Dishonest, Diplomatic, Cunning.

The analysis of Part II of the questionnaire provides additional support for the above stereotypes. Here, the responses above the median for each of the two groups compared have been taken (Table 2). The data bring out more or less the same traits for the majority of the national groups as have appeared in response to Part I of the questionnaire. Two national groups (i.e., Burmese and Negroes) have been excluded from the comparison for lack of adequate data. The following are the traits in which one national group excels another.

Americans....are more Democratic than the *British*.
Americans....are more Peace-loving and Democratic than the *Russians*.
Americans....are more Democratic and Intelligent than the *Chinese*.
Americans....are more Proud, Intelligent, and Showy than the *French*.
Russians.....are more Aggressive than the *Chinese*.
Russians.....are more Hardworking and Intelligent than the *French*.
Russians.....are more Dutiful than the *Germans*.
Chinese.....are more Simple, Brave, and Artistic than the *Japanese*.
British.....are more Cunning and Diplomatic than the *Germans*.
Chinese.....are more Brave and Peace-loving than the *Indians*.
Indians.....are more Religious, Cunning, and Faithless than the *Russians*.
British.....are more Cunning and Diplomatic than the *Russians*.
Indians.....are more Selfish and Cowardly than the *Pakistanis*.
Arabs.....are more Hospitable and Religious than the *Turks*.
Germans.....are more Hardy and Intelligent than the *Indians*.
Pakistanis.....are more Religious than the *Turks*.
Pakistanis.....are more Simple and Religious than the *Americans*.

TABLE 4
SHOWING RESPONSES GIVEN BY 50 OR MORE RESPONDENTS

Responses	American	British	Germans	Pakistanis	Indians	Burmese	French	Arabs	Turks
Democratic	70								
Cunning		79							
Hardy			69						
Patriotic			53						
Lazy				58					
Dishonest					51				
Simple						67			
Intelligent			53						
Diplomatic		59							
Sexy							63		
Religious				67				79	
Hospitable								84	
Brave								50	75

The traits in the questionnaire are divisible into three categories of Good, Bad, and Neutral insofar as these are identified in our daily use. These categories, however, were not made at the time of the study. It might have been possible to get sharply distinct responses for at least certain national groups by thus categorising them, but then it would not have helped in our identification of the respondents' stereotypes which, we believe, are linked with the unconscious motivations of a group and "reflect the nonlogical or illogical nature of our basic values" (5). The following classification was made at the time of the analysis.

Good Traits: Tolerant, Honest, Hardy, Democratic, Straightforward, Patriotic, Open-minded, Generous, Intelligent, Simple, Liberal, Gentle, Sincere, Artistic, Religious, Peace-loving, Hospitable, Friendly, Brave, Faithful, Dutiful, and Well-behaved.

Bad Traits: Lazy, Cunning, Dishonest, Greedy, Selfish, Bribe-taking, Ill-behaved, Intolerant, Superstitious, Aggressive, Proud, Hot-tempered, Opportunistic, Rude, Traitor, Showy, Sexy/Romantic, Coward, Cruel, Bad, Diplomatic, Mean, Crooked, Rowdy, Cool, Drunken, Inefficient, Faithless.

Neutral Traits: Emotional, Ambitious, Shy, Shrewd, Reserved, Formal, Idealistic, Grave, Dull, Warmongering.

The above classification is arbitrary and reflects the popular usage of the qualities implied by them in Pakistani culture. Table 5 shows the percentage of responses assigning Good, Bad, and Neutral traits to each national group. It also presents a comparison of the present data with those of the Dacca study (6) only for the national groups common in both the studies. Some very

TABLE 5
SHOWING THE PERCENTAGE OF ASSIGNMENT OF GOOD, BAD, AND NEUTRAL TRAITS TO EACH NATIONAL GROUP

National group	Good		Bad		Neutral	
	Dacca	Karachi	Dacca	Karachi	Dacca	Karachi
American	76	38	24	52	—	10
British	24	29	64	58	12	13
French	32	28	68	57	—	15
Russian	39	34	48	50	13	16
Indians	—	17	76	76	24	7
Turks	89	65	—	25	11	10
Arabs	67	73	18	20	15	7
Chinese	86	64	14	23	—	13
German	60	70	33	15	7	15
Burmese	—	64	—	23	—	13
Negroes	—	44	—	41	—	15
Pakistanis	—	58	—	31	—	11
Japanese	—	72	—	17	—	11

interesting points are indicated here. Independently the present study shows that Arabs are the most favourably rated and the Indians the least favourably rated national groups. With the Arabs the Muslims have an emotional identification for the significant reason that the Prophet of Islam (the religion of the respondents) was an Arab, the language of the Holy Quran is Arabic, and the mental picture of an Arab for most of the Muslims in the entire Pak-Indian subcontinent is that of a holy man, so much so that any bearded man speaking Arabic would generally be treated with respect simply because of his presumed Arab origin. The Muslims go to Mecca (Saudi Arabia) for the pilgrimage (Hajj), and many of those Muslims who perform the pilgrimage would wish to spend the rest of their life in Mecca. Because of these reasons an Arab is in theory the most holy and saintly character. With the Indians we have a 16-year-old background of conflict which in recent months has assumed serious proportions, and hence the unfavourable rating. In addition to this national attitude of our respondents, most of them may have suffered personal losses at the hands of certain Indians.

The Japanese have received the second highest favourable rating. One reason for this may be that even before the Second World War Japanese had generally become the heroes for most of the Asian countries, and especially for the Pak-Indian subcontinent, for the reason that Japan was the only Asian country which was free and could compete with any Western country in terms of her industrial development and scientific achievements. Moreover our relations with Japan have been most cordial since Independence.

A comparative analysis of Table 5 shows some interesting differences between the two studies. In the Dacca study the Americans were assigned 76 per cent of the good traits. In the present study the good traits assigned are only 38 per cent, and the assignment of bad traits has increased from 24 to 52 per cent. This is indicative of a shift that has taken place in our attitude towards the Americans especially because of the huge American arms rush to India. Although the two groups are different and there is no claim to their homogeneity, the differences are significant and indicate the general mood of the country's youth whether they be in Dacca or Karachi. There is no difference for the Russians, the British, or the French.

Another comparative analysis, which may be of some interest to foreign readers, may be made between the stereotypes of three different university groups—i.e., Lahore, Dacca and Karachi (all major university cities of Pakistan)—about the three politically most significant national groups—i.e., Americans, British, and Russians. Table 6 presents the data for such a comparison. There is a three-year time lag between the Lahore and the Dacca

TABLE 6
SHOWING THE COMPARISON OF LAHORE, DACCA, AND KARACHI STUDENTS' STEREOTYPES ABOUT AMERICANS, BRITISH, AND RUSSIANS

	Lahore	Dacca	Karachi
Americans	Hardworking Intelligent 420 (Cheat)	Friendly Generous Open-minded	Democratic Cunning Selfish
British	Intelligent Clean Hardworking	Aggressive Conservative Cunning	Cunning Diplomatic Reserved
Russians	Hardworking Cruel 420 (Cheat)	Hardy Aggressive Faithless	Proud Intelligent Ambitious

studies and a five-year difference between the Dacca and the Karachi studies. The Karachi students are most favourably disposed towards the Russians; Lahore students, towards the British; and Dacca students, towards the Americans. The differences between Lahore and Dacca students have been discussed in our earlier study (6). The stereotypes of the Karachi students may be explained in terms of the following: (*a*) Karachi students are mostly those whose parents have changed residence after 1947. In this change of nationality, most of them suffered losses of life and property for which we generally blame the British for allegedly favouring India in the partition of the country. (*b*) Recently the general mood of the Pakistani people has changed towards the American people due to their lack of sympathy for Pakistan's defence problems. (*c*) The favourable attitude towards Russia is more a reaction against America's lack of sympathy than of any real love for Russia.

One special feature of the present study is the stereotypes of the students about Pakistan, their own home. Pakistanis to our respondents are religious, peace-loving, lazy, simple, and patriotic. In comparison to Indians, Pakistanis are less selfish and cowardly. They are more religious than the Turks. The only bad trait assigned to Pakistanis is laziness. In this our respondents are similar to Rath's (3), who blamed Indians for laziness. This common stereotype about themselves may be due to our common struggle against the British during which political leaders exhorted the people for action. Political leaders in those days of British domination often blamed the people for laziness.

F. SUMMARY

A survey of students' national stereotypes towards 13 national groups was conducted with a sample of 214 students of the University of Karachi. With a

given list of 60 adjectives, the respondents were asked to assign as many adjectives as they thought most fitting to each national group. The data have been analysed in terms of certain historical, cultural, and political factors influencing the university students in Pakistan.

References

1. Goodman, M. E. Race Awareness in Young Children. Cambridge, Mass.: Addison-Wesley, 1952.
2. Katz, D., & Braly, K. W. Racial stereotypes of 100 college students. *J. Abn. & Soc. Psychol.*, 1933, **28**, 280-290.
3. Rath, R., & Das, J. P. Study in stereotypes of college freshmen in Orissa, India, towards themselves and four other foreign nationalities. *J. Soc. Psychol.*, 1958, **47**, 373-385.
4. Sailer, R. C. A study of certain stereotypes of 225 Lahore students. *Proc. 2nd Pakistan Philos. Cong.*, 1955, 195-203.
5. Young, K. Handbook of Social Psychology. London: Kegan Paul, 1946.
6. Zaidi, S. M. H., & Ahmad, M. National stereotypes of university students in East Pakistan. *J. Soc. Psychol.*, 1958, **47**, 387-395.

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PROBLEMS OF OPERATIONAL DEFINITIONS OF "EMPATHY," "IDENTIFICATION" AND RELATED CONCEPTS* [1, 2]

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This paper contains two main sections. The first of these, included mainly for pedagogical purposes, reviews the commonly noted operational traps into which researchers working with measures of social perception may fall. The second major section deals with what might be called errors of omission. Through a systematic analysis of the operations involved in several measures of social perception currently in use, it points to the vast number of implied measures as yet unrecognized, unexplained, and unexplored.

A. OPERATIONAL TRAPS

1. *Empathy and Identification*

To facilitate the organization of this paper, discussion is keyed to the two concepts most often used in social perception, empathy and identification. A great many experimental studies have involved one or both of these concepts as relevant variables, and they have high theoretical importance. "Literary" and operational definitions of these terms will serve as base points for further discussion.

a. Empathy. Dymond, in her ground-breaking experiment on empathy, defines it as "The imaginative transposing of oneself into the thinking, feeling and acting of another, and so structuring the world as he does." (7, p. 217)

b. Identification. Symonds' statement of what he considers to be the most common meaning of identification is "The modeling of oneself in thought, feeling or action after another person." (15, p. 240)

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[1] This study stems from the program of research entitled "The Variables and Conditions of Small Group Interaction" at New York University, on which the author was a research assistant. I am grateful to Edgar F. Borgatta, project director, for his editorial advice; to Jonathan Robbin, John Stimson, Robert F. Guerrin, and Ardyth Stimson, who participated in the research program; and to Wellman J. Warner for his critical reactions.

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The foregoing definitions are by no means the only ones extant. Important elements used by such theorists as Parsons and Freud are completely left out. Thus, Parsons discusses identification as follows:

> Identification . . . means taking over, *i.e.*, internalizing, the values of the model. It implies that ego and alter have established a love relationship in which value-patterns are shared. Alter is a model and this is a learning process, because ego did not at the beginning of it possess the values in question (13, p. 211).

An empirical definition of this phenomenon as differentiated from a concept such as empathy, or another concept Parsons uses, "imitation," presents grave difficulties.

Another theoretical problem is presented in Cottrell's description of the "basic" processes in social interaction (4, p. 374):

> The impact of one human organism A on the activities of another, B, not only stimulates and conditions a response pattern of A to B, but also conditions in A the response pattern of B to A as A has perceived that action, and vice versa. (This pattern of responding by reproducing the acts of other(s) has been referred to by various writers as taking the role of the other, identification, introjection, sympathy, empathy or imitation.)

Whereas Parsons adds elements to the definition of identification, Cottrell literally equates several commonly used concepts in social perception. One of the major tasks of operationism is to clarify such problems.

2. *Some Operational Definitions of Empathy and Identification*

Dymond's measure of empathy was based upon the following procedures: First, the object (O) would rate himself on six traits. Then, *S* would try to predict the ratings that O had made. The difference between *S*'s predictions and O's ratings constituted *S*'s "empathic ability," where a low score meant that *S* had a "high" empathic ability.

Using what Bronfenbrenner (3) calls "a now almost standard device" to measure identification, Sopchak (14) follows the following procedures: *S* fills out the MMPI for himself (*S*) as he thinks his father (F) would and as he thinks his mother (M) would. The similarity between the test he filled out for himself and for F gives a score for his identification with F. Similar procedures yield a score for his identification with M. A major deviation from the procedure, which has found much favor, is having F fill out his own MMPI in addition, by which means "real" identification could be separated out from "unwarranted assumed similarity" (e.g., 11).

3. *Problems of Operational Definitions*

Both the validity and the meaningfulness of these types of measures have been seriously questioned on numerous points by critics, particularly Cronbach (5) and Gage (10). Some of these criticisms are outlined and examined here.

a. The problem of content. There are several problems associated with the selection of the characteristics of the other with whom the subject is empathizing or identifying. First, if the subject can correctly predict certain behaviors of the other, but cannot predict other behaviors, should his "overall" empathic ability be considered mediocre? Studies by Borgatta (1) and others have indicated that there is systematic variance in the population between content categories. Might it not be more profitable to state, simply, that this person is able to empathize on certain characteristics or, in other words, able to assume only certain aspects of the other's total role, than to say that he cannot empathize "totally." This aspect of the problem might be even more important in the study of identification. Thus, the individual might internalize certain role behaviors of the other while overlooking other behaviors. In terms of meaningful research strategy, it now seems advisable that empathy and identification be operationalized along specified, important content categories. Instead of asking about a person's total identification with his father, it might be advisable to ask about his sex-role identification, his occupation-role identification, etc. Selection of these categories thus becomes, in itself, a meaningful area for empirical research. An example of how this process might be undertaken may be found in a study by Borgatta, Cottrell, and Mann (2). In this paper, the authors were studying small group behavior and interpersonal evaluation in small groups. For their "empathy" test they were interested in abilities to predict interpersonal evaluations. Thus, they first extracted, by means of factor analysis, three orthogonal factors that were important in evaluation and studied empathy on each of these dimensions separately. It could then be empirically determined, through correlational analysis, whether or not a "global" score was usable. In other words, if "empathic ability" is general over content, this should arise from the empirical data.

b. The use of rating scales. Much has been said about the almost total inadequacy of the rating scale in eliciting interpretable responses for this type of research. Of particular note here is the work of Cronbach (5, 6). Briefly, some of the criticism would be of the following nature. People differ in their characteristic use of rating scales. Thus, if the object characteristically

uses the lower part of the scale, the predictions of the subject will be substantially "wrong" even if he has essentially grasped the pattern of the object's responses. Also, the subject who characteristically uses the middle portions of the rating scale will, on a simple probabilistic basis, tend to have better prediction scores than someone who uses the extremes or the whole of the scale equally.

In other words, different points on the rating scale mean different things to different people. When difference scores, such as those commonly associated with the measurement of empathy or identification, are used, this differential use of the scale appears as an artifactual component of the score. It might be argued that ability to predict the use of the scale is dependent upon empathy and thus should be part of the score. Nevertheless, it would rarely be argued that this is a significant content, and it is of such overriding magnitude in the use of rating scales that it often can render any other empathy components meaningless.

For identification, the problem is not as serious, since the same rater does both ratings to be compared. Thus, the problem of differential elevation does not apply. Nevertheless, this does not obviate all problems arising out of differential use of the scale. Persons who make only restricted use of the scale, for example, such as not using the extreme points or using only the extreme and one middle point on the scale, will tend to have, on a chance basis, higher "identification" scores; and these practices appear to be quite common. In addition, if an attempt is made to determine the "real identification," as different from the "assumed identification," of the individual, all the problems of differential use of the rating scale noted in connection with empathy return to plague the researcher.

c. Selection of the other. Of all the problems involved in researching empathy and identification, perhaps the most difficult is the specification of the other. This is not, basically, an operational problem, but one that has an operational component. Briefly stated, the operational problem involved is one of the operations of chance. Most operational methods require a specific, fairly small number of possible descriptions of the other and of the self. On a purely random basis, if asked to do so, a subject may empathize, or identify, perfectly with an object he has never met. The other side of the coin would be that just because, for example, the son and the father have similar personality structures, this would be interpreted as meaning that the son has identified with the father. This could also happen with the gardener who happens to have a similar personality structure, or the butcher whom the son has met twice, but whom the son feels is "pretty much the same as I."

The tremendous complexity of this last type of problem is intensified by other theoretical misgivings. Suppose, for example, that in the father-son relationship there really was no such operating mechanism as identification by the son. What really happens is that the mother and the father have similar conceptions of what the adult male should be like. The father, being an egotist, takes himself as a model, and since the mother probably likes this model (she married him), they both want the son to be "like his father." Thus, in structuring the role-training process, they impose these characteristics upon the son. Is this identification?

On the other hand, similar problems arise in the interpretation of empathy. Subject A is an insensitve dolt from New York City who finds it very difficult to differentiate among people, but who has been trained to a single image of what teen-age boys are like. Subject B, from the Midwest, is more sensitive, but has a different base image. Put them both in a group with three other New York teen-agers and subject A might do much better on empathy tests simply by predicting all the others the same way. Is this empathy?

B. Interpersonal Perception Measures

The previous section dealt with essentially technical problems. Even when these are resolved, the question remains, what is empathy and what is identification in an operational sense. In addition, are these the only or the theoretically most appropriate measures available? In order to attack these problems, this section sets forth a description of the possible scores available in the study of interpersonal perception for a limited set of primary pieces of information. It is, in effect, an attempt to define the operational field for researchers working with concepts in this area.

In a simple two-man interaction situation, we are interested in the "empathy," "identification," and "what-have-you" of subject A. The other subject will be called O. The following ratings are immediately available to the investigator:

1. A rates O
2. A rates A
3. O rates A
4. O rates O.

From these four ratings the identification scores mentioned ("real" and "assumed") could be computed. To get empathy, we would have to add:

5. A rates O "as O would"
6. A rates A "as O would."

However, a perusal of the possible combinations of these scores shows that these are not only the three measures already mentioned in this paper (empathy, real identification, and assumed identification), but a large number of measures, each with a different interpretable significance. Thus,

a. 1-2 gives "assumed identification"
b. 2-4 gives "real identification"
c. 5-4 gives "empathy with other's self-image"
d. 6-3 gives "empathy with other's image of subject"
e. 1-4 may by called "imitation of other's self-image, actual"
f. 2-3 may be called "imitation of other's image of subject, actual"
g. 2-5 may be called "perceived imitation of other's self-image"
h. 2-6 may be called "perceived imitation of other's image of subject"
i. 5-6 may be called "perceived identification of other with self"
j. [5-6]-[3-4] may be called "empathy of identification of other with self."

There are other possible combinations, each of which *may* have some real meaning, such as [1-5] which may be called "perceived self-image reliability of O." Thus, the possible scores and meanings are already quite complex. There are, however, further ramifications. Many researchers, not content with these simple possibilities (and quite correctly so), and trying to circumvent some of the technical problems inherent in using these measures, have added other possible objects of ratings which they use to measure "empathy" or "identification."

Wertheimer (18) has used values or "ideals" in an attempt to study person cognition. This opens up whole new areas of investigation. Is not perceived similarity of one's own ideal and some other's ideal true identification? We do not expect the teen-ager to behave like his father no matter how much he identifies with him. Perhaps the answer lies in his expectations for when he is older, and the correlation of his expectations with his father's. Is not the correct prediction of the other's ideals a form of empathy? The advantages of this method lie in the fact that the other's image of himself might be contaminated by his ideal, whereas, when you *ask* for his ideal there is no such contamination, and prediction is more possible. Might it not be the other's "ideal" that we really want to empathize with? Thus, several new possible scores are introduced.

7. A rates AIA (Subject's Ideal Self)
8. A rates OIO (Other's Ideal Self)
9. A rates AIA "as O would"
10. A rates OIO "as O would"
11. O rates AIA
12. O rates OIO.

It should be noted that it is improbable that scores [8] and [10] would be greatly different. Further interpretation of these and other scores are discussed in a later section of this paper.

Taken even further, and perhaps more logically, it would not only be father's ideal self, but his ideal child, which the child must perceive. In interpersonal behavior situations, the child must empathize how his father wants a child to act, not so much how he wants a father to act. For example, Helper (12) claims that the subject's self-ideal should rely more on the parent's ideal-child concept than upon that of random others. Thus, the following measures may be added:

13. A rates OIA (Other's Ideal A)
14. A rates AIO (Subject's Ideal O)
15. A rates OIA "as O would"
16. A rates OIO "as O would"
17. O rates OIA
18. O rates AIO.

Another possibility, suggested by Van Zelst (17) and others, is to use some "unbiased" measure in the study of empathy and identification. This, supposedly, would circumvent the problems created by biases in self-reporting. Thus, empathy of the subject with the other might be measured by his prediction of how the other will score on some psychological (supposedly valid and reliable) test. Identification might be more properly measured by comparing the subject's view of himself with the actual characteristics of the other rather than with the other's self-perception. After all, in the case of son-to-father identification, it is the father's actual demonstrated traits which the son seeks to or does emulate, for these are what he perceives. To extend the argument even further, what might count are the subject's scores on the traits and their similarity to other's pattern, as this gives us how he *actually* imitates his father rather than his perception of similarities. Therefore, the following possible scores may be added to the list:

19. Test (T) rates O
20. Test (T) rates A.

It should be noted that having A rate O "as the test would" is really a meaningless additional score, as it should correspond perfectly to his rating of O.

There are several other ways of getting this third "objective" rating of the participants, represented above by a "test," which have been used. Tagiuri (16) and others, for example, use the ratings of a group of "others" whose

combined ratings supposedly are comparatively unbiased. A trained psychologist may also be used.

These are probably not the only measures that an inventive researcher might propose for analysis. However, this list (Table 1) certainly contains some of the more important measures and is long enough to demonstrate the enormous range of possible scores of A's perceptual framework that might be used.

TABLE 1
LIST OF VARIABLES

Variable no.	Description
1	A rates O
2	A rates A
3	O rates A
4	O rates O
5	A rates O "as O would"
6	A rates A "as O would"
7	A rates AIA
8	A rates OIO
9	A rates AIA "as O would"
10	A rates OIO "as O would"
11	O rates AIA
12	O rates OIO
13	A rates OIA
14	A rates AIO
15	A rates OIA "as O would"
16	A rates AIO "as O would"
17	O rates OIA
18	O rates AIO
19	Test rates O
20	Test rates A

Table 2 attempts to show what products a systematic approach to the problem of interpersonal perception and "identification" might accomplish. As has been previously noted, all scores in this area are really "difference" scores, arrived at by comparing two or more measured quantities. The table gives all of the possible two-measure difference scores that may be elicited by using the 20 noted measures. Each cell is interpreted as to its possible meaning. The suggested interpretations are not necessarily the only, or even the best, descriptions of what the difference scores mean.

It should be noted that there are many difference scores that are derived by combining three or four measures that might be quite meaningful. Unfortunately, practical limitations here do not permit their analysis. The table is presented so that a fuller understanding of the scope of the problem may be realized, and is not intended as "the last word" on this subject.

TABLE 2
THE FIELD OF INTERPERSONAL PERCEPTION MEASURES

	1 A rates O	2 A rates A	3 O rates A	4 O rates O
2	*identification* in most studies; assumed similarity with other			
3	usually not used (UNU); similarity of images A and O have of each other	UNU, similarity of A's and O's perception of A		
4	UNU, similarity of A's and O's perception of O	"actual" *imitation* or *identification;* similarity of A's and O's self-images	not a score in A's field	
5	A's perception of O's ability to judge himself	UNU, *identification* of A with O's self-image	basically meaningless	accuracy of A's perception of O's self rating; *empathy* with other's self-image
6	UNU, A's perception of similarity of his and O's rankings of each other; *imitation*	UNU, A's perception of O's ability to rate A	accuracy of A's perception of O's rating of A; *empathy* with O's image of A	basically meaningless
7	UNU, extent A would model himself after O; desired *imitation*	A's perception of his own "adequacy" in terms of his ideal	UNU, extent to which A "appears" to be what he wants to appear to be	UNU, extent A models self-ideal after O (if O is accurate); desired *imitation*
8	UNU, A's perception of extent to which O lives up to O's ideal	basically meaningless	basically meaningless	UNU, extent A perceives O's behavior as being O's ideal self (if O is accurate)
9	basically meaningless	basically meaningless	basically meaningless	basically meaningless
10	same as [1] vs. [8]	UNU, A's perception of his identification with O's ideal self (may be meaningless)	basically meaningless	same as [8] vs. [4]

TABLE 2 (*continued*)

	1 A rates O	2 A rates A	3 O rates A	4 O rates O
11	basically meaningless	basically meaningless (in understanding A)	not a score in A's field	not a score in A's field
12	UNU, extent A's perception of O influenced by O's self-ideal (false front?)	UNU, A's *identification* with O's self-ideal	not a score in A's field	not a score in A's field
13	basically meaningless	UNU, A's perception of how well he is living up to O's ideal image for A	not a score in A's field	UNU, extent O's behavior determines A's perception of OIA (if O is accurate)
14	UNU, A's perception of the "adequacy" of O's performance	UNU, A's perception of extent he imitates ideal O; extent A wants O to be like A	basically meaningless	UNU, extent O conforms to A's ideal O (if O is accurate) (interesting if A is father)
15	UNU, A's perception of O's identification with OIA (interesting if A father, O son)	same as [2] vs. [13]	not a score in A's field	same as [4] vs. [13]
16	UNU, A's perception of how "adequately" O lives up to what O feels is A's ideal O	basically meaningless	basically meaningless	UNU, extent A's ideal O is determined by O's behavior (if O is accurate)
17	basically meaningless	UNU, extent A lives up to O's expectations (if A is accurate)	not a score in A's field	not a score in A's field
18	basically meaningless	basically meaningless	not a score in A's field	not a score in A's field
19	accuracy of A's perception of O	"actual" *identification* of A with O's characteristics	not a score in A's field	not a score in A's field
20	"actual" imitation of O by A (a possible *identification* score)	accuracy of A's self-perception	UNU, accuracy of O's perception of A; A's "visibility"	UNU, "actual" *identification* of A with O (if O is accurate)

TABLE 2 (*continued*)

	5 A rates O "as O would"	6 A rates A "as O would"	7 A rates AIA	8 A rates OIO
6	UNU, A's perception of O's "assumed similarity" or "identification" with A			
7	UNU, A's perception of O's "identification" with A's self-ideal (may be meaningless)	UNU, A's perception of how much O feels A behaves like A's ideal		
8	UNU, A's perception of O's satisfaction with his own (O's) performance	UNU, A's perception of O's projection of O's self-ideal onto A (may be meaningless)	UNU, *projection*, "assumed similarity," *identification* of A's self-ideal to O's	
9	same as [5] vs. [7] (but probably a better measure)	UNU, A's perception of O's impression of the disparity between A's behavior and ideals	UNU, A's perception of O's ability to empathize with A's self-ideal	UNU, extent A perceives O projects his own self-ideal on his image of AIA
10	same as [5] vs. [8] (but probably a better measure)	same as [8] vs. [6]	UNU, A's perception of similarity of A's and O's self-ideals	UNU, extent A perceives O does not know his own ideals (may be meaningless)
11	basically meaningless	basically meaningless	similarity of A's and O's perception of A's self-ideal	basically meaningless
12	UNU, extent A's idea of O's self-rating is influenced by O's self-ideal	basically meaningless	UNU, similarity of A's and O's self-ideals; self-ideal *identification*	UNU, accuracy of A's perception of O's self-ideal; *empathy*
13	UNU, extent A perceives O as *imitating* (or identifying with) O's ideal A	UNU, A's perception of the extent O feels he lives up to ideal he sets for A	UNU, A's perception of similarity of O's and A's ideal A (possible *identification* score)	UNU, A's perception of similarity of O's ideals for A and O; *projection?*
14	UNU, A's perception of extent O thinks O lives up to A's ideal (if O knows A's ideal)	basically meaningless	UNU, A's *identification* of self-ideal with other-ideal; ideal-*imitation*	UNU, A's perception of wrong in O's ideal-self; *imitation* of O's ideal O

TABLE 2 (*continued*)

	5 A rates O "as O would"	6 A rates A "as O would"	7 A rates AIA	8 A rates OIO
15	same as [5] vs. [13]	same as [6] vs. [13]	same as [7] vs. [13]	same as [8] vs. [13]
16	UNU, A's perception of extent O thinks he lives up to A's ideal for O	UNU, extent A perceives O thinks A *projects* self into his ideal for O	basically meaningless	UNU, A's perception of similarity of O's self-ideal and ideal for A
17	basically meaningless	UNU, extent A's perception of O's rating of A really reflects O's ideal A	UNU, "actual" similarity of A's and O's prescriptions for A; role learning	basically meaningless
18	basically meaningless	basically meaningless	basically meaningless	basically meaningless
19	UNU, may be used as A's feeling that O is biased, but basically meaningless	basically meaningless	UNU, *identification, imitation* in self-prescription based on O's characteristics	UNU, extent A's perception of OIO comes from O's actual characteristics
20	UNU, *projection* by A into O's personality and O's judgment of O's personality	UNU, possibly extent of "wishful thinking" by A	UNU, extent A "justifies" own characteristics by calling them ideal	basically meaningless

	9 A rates AIA "as O would"	10 A rates OIO "as O would"	11 O rates AIA	12 O rates OIO
10	UNU, A's perception of O's impression of similarity of A's and O's self-ideals			
11	UNU, *empathy;* accuracy of A's prediction of O's rating of A's self-ideal	basically meaningless		
12	basically meaningless	UNU, accuracy of O's self-ideal; *empathy* (better than [8] vs. [12])	not a score in A's field	
13	UNU, A's perception of extent O projects his ideal A onto his impression of AIA	same as [8] vs. [13]	UNU, similarity of A's and O's assumptions about other's ideal A	UNU, extent A's perception of OIA really is impression of OIO

TABLE 2 (*continued*)

	9 A rates AIA "as O would"	10 A rates OIO "as O would"	11 O rates AIA	12 O rates OIO
14	basically meaningless	same as [8] vs. [14]	basically meaningless	UNU, extent A's ideal O agrees with O's ideal O; *imitation?*
15	UNU, A's perception of the similarity O sees in his own and A's ideal A	same as [8] vs. [13]	basically meaningless	basically meaningless
16	UNU, A's perception of O's perception of similarity in A's self-ideal and other ideal	same as [8] vs. [16]	basically meaningless	basically meaningless
17	basically meaningless	basically meaningless	not a score in A's field	not a score in A's field
18	basically meaningless	basically meaningless	not a score in A's field	not a score in A's field
19	basically meaningless	same as [8] vs. [19]	not a score in A's field	not a score in A's field
20	basically meaningless	basically meaningless	basically meaningless	possibly a form of "real" *identification* (may be meaningless)

	13 A rates OIA	14 A rates AIO	15 A rates OIA "as O would"	16 A rates AIO "as O would"
14	UNU, A's perception of similarity of his and O's ideal expectancies for each other			
15	UNU, A's perception of O's error in perceiving O's ideal A (may be meaningless)	same as [13] vs. [14]		
16	UNU, A's perception of similarities in O's ideal expectancies for A and O	UNU, *projection* or assumed similarity by A onto O's perception of A's ideal O	same as [13] vs. [16]	

TABLE 2 (*continued*)

	13 A rates OIA	14 A rates AIO	15 A rates OIA "as O would"	16 A rates AIO "as O would"
17	UNU, accuracy of A's perception of O's ideal A; *empethy*	UNU, similarity of A's and O's expectancies (ideals) for each other; *imitation*	UNU, *empathy;* same as [13] vs. [17] but more precise	basically meaningless
18	UNU, similarity in A's and O's expectations of each other's ideal other; *imitation*	UNU, similarity of A's and O's impressions of what A's ideal O is, A's "visibility"	same as [13] vs. [18]	UNU, accuracy of A's perception of O's impression of A's ideal O; *empathy*
19	UNU, extent O's characteristics influence A's perception of O's ideal image of A	UNU, extent O actually meets A's ideal image for O	same as [13] vs. [19]	UNU, extent O's characteristics influence A's perception of O's perception of AIO
20	UNU, A's "wishful thinking" that O's ideal A coincides with real A	UNU, extent A *projects* own characteristics onto his ideal O	same as [13] vs. [20]	basically meaningless

	17 O rates OIA	18 O rates AIO	19 Test rates O	20 Test rates A
18	not a score in A's field			
19	not a score in A's field	not a score in A's field		
20	UNU, extent A lives up to O's ideal for A; learning; role-acceptance	basically meaningless	"actual" similarity of A and O, *identification* of A with O (real)	

C. Conclusion

Perusal of Table 2 should indicate the tremendous scope of the area of interpersonal perception measures and the problems inherent in *unsystematically* selecting for study particular variables from within the area. The additional fact that this two-by-two table does not completely define this field further complicates the problem. Thus, if one were to compare two of the "cells" in the table, such as [1-5] *vs.* [4-19], one would have a score for "accuracy of A's perception of O's ability to judge himself," or yet another possible aspect of empathy. The situation becomes compounded when the analysis is extended beyond the dyad. By indicating the complexity of measures in this area of social perception, it is possible to understand why the vast volume of work, particularly on "empathy" and "identification," has contributed surprisingly little to our knowledge about these phenomena.

References

1. Borgatta, E. F. Rankings and self-assessments: Some behavioral characteristics replication studies. *J. Soc. Psychol.*, 1960, **52**, 279-307.
2. Borgatta, E. F., Cottrell, L. S., & Mann, J. H. The spectrum of individual interaction characteristics: An inter-dimensional analysis. *Psychol. Rep.*, 1958, Monograph Supplement 4, 279-319.
3. Bronfenbrenner, U. The study of identification through interpersonal perception. In R. Tagiuri & L. Petrullo (Eds.), *Person Perception and Interpersonal Behavior*. Stanford, Calif.: Stanford Univ. Press, 1958. Pp. 110-130.
4. Cottrell, L. S. The analysis of situational fields in social psychology. *Amer. Social Rev.*, 1942, **7**, 370-382.
5. Cronbach, L. J. Processes affecting scores on "understanding of others" and "assumed similarity." *Psychol. Bull.*, 1955, **52**, 177-193.
6. ———. Proposals leading to analytic treatment of social perception scores. In R. Tagiuri & L. Petrullo (Eds.), *Person Perception and Interpersonal Behavior*. Stanford, Calif.: Stanford Univ. Press, 1958. Pp. 353-739.
7. Dymond, R. F. A scale for the measurement of empathic ability. *J. Consult. Psychol.*, 1949, **13**, 127-133.
8. Festinger, L., & Katz, F. Research Methods in the Behavioral Sciences. New York: Dryden, 1953.
9. Fiedler, F. E. Assumed similarity measures as predictors of team effectiveness. *J. Abn. & Soc. Psychol.*, 1954, **49**, 381-388.
10. Gage, N. L., & Cronbach, L. J. Conceptual and methodological problems in interpersonal perception. *Psychol. Rev.*, 1955, **62**, 411-422.
11. Gray, S. W., & Klaus, R. The measurment of parental identification. *Genet. Psychol. Monog.*, 1956, **54**, 87-114.
12. Helper, M. M. Learning theory and the self-concept. *J. Abn. & Soc. Psychol.*, 1955, **51**, 184-194.
13. Parsons, T. The Social System. Glencoe, Ill.: Free Press, 1955.
14. Sopchak, A. L. Parental "identification" and "tendencies towards disorder" as measured by the MMPI. *J. Abn. & Soc. Psychol.*, 1952, **47**, 159-165.
15. Symonds, P. The Dynamics of Human Adjustment. New York: Appleton-Century, 1946.

16. TAGIURI, R. Relational analysis: An extension of sociometric method with emphasis upon sociometric perception. *Sociometry,* 1952, **15**, 91-104.

17. VAN ZELST, R. H. An interpersonal relations technique for industry. *Personnel,* 1952, **29**, 68-84.

18. WERTHEIMER, M. Values in person cognition. In D. Willner (Ed.), *Decisions, Values and Groups.* New York: Pergamon Press, 1960. Pp. 135-152.

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OPINION CHANGE FOLLOWING A MAJOR COLD WAR EVENT: SOME LABORATORY FINDINGS*

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A. PROBLEM

As Hovland (1) has pointed out, laboratory studies of attitude change are characteristically limited to using brief exposures to persuasive communications in an attempt to produce a change in opinion. These studies usually employ unfamiliar or uninvolving issues. Occasionally, however, an unexpected news event on an issue of daily importance and high involvement will provide the opportunity to capitalize upon a laboratory experiment that is in process or recently completed. Such was the case in the study reported by Janis, Lumsdaine, and Gladstone (2) which was able to examine the effect of preparatory communications on reactions to a subsequent news event. "Natural" experiments of this kind, scarce though they are, provide an opportunity to enrich findings from more typical laboratory studies. This is a report of opinion change on two related, important topics resulting from exposure to news coverage by the mass media of a significant and unexpected cold war event, the U-2 "spy plane" incident of early May, 1960. News of this incident appeared in the United States on the evening of May 5.

B. PROCEDURE

In April and May of 1960, undergraduate students (*S*s) serving in an experiment having another focus[1] were asked to make ratings on the truth of two statements about the effects of internal conditions in Russia: "Internal conditions in Russia are forcing the communist leaders to adopt an increasingly more aggressive foreign policy," and "Internal conditions in Russia will soon cause another world war." These two items were imbedded in a 48-item questionnaire, in which the topics ranged over 16 quite different issues. Each *S* participated in two experimental sessions separated by one week, each time answering the questionnaire. Opinions on each item were

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[1] The author is indebted to Professor M. B. Smith for his guidance throughout the main experiment and for his comments on an earlier draft of this paper.

recorded by marking a graphic scale running from zero ("Highly Improbable") to 100 ("Highly Probable").

Table 1 contains a description of the subgroups used in the study. "Before" designates measurement of the opinions prior to the U-2 incident; "After" groups were measured after May 5th. First and second administrations of the questionnaire are indicated by I and II, respectively. Comparisons between the Before group I and any of the After I groups constitute an after-only design to test the effect of the U-2 incident if the groups can be considered equivalent in other relevant respects. The same consideration holds for comparisons between Before group II and the After II groups. Nonparametric statistics were used throughout the analyses because of the small size of some samples. One-tailed tests of significance are reported in the before-after comparisons since the U-2 incident is expected to have an average unidirectional effect, increasing the estimated probability that the Russians will adopt a more aggressive foreign policy and increasing the probability of another war.

The data should indicate, then, (*a*) any change in opinions as reflected in the items on Russian foreign policy and another world war, and (*b*) something about the role of the interval between mass-media coverage of the U-2 incident and measurement of the impact of this event. Also, we may examine the effects of the experience of taking the questionnaire on a subsequent administration of the same questions.

C. Results

1. *Impact of the U-2 Incident*

Median responses for the various groups to the statement dealing with a more aggressive Russian foreign policy are shown in Table 1. From these it can be seen that there is no appreciable difference between Before group I and any of the After I groups; the slight rise by the Immediate After group I in estimated probability of a more aggressive foreign policy following the U-2 incident is statistically insignificant. On a second administration, the Before group considered it less probable that internal conditions in Russia were leading to a more aggressive foreign policy,[2] whereas the After groups had all changed in the opposite direction.

As shown by Table 1, Before group II differs to a statistically significant

[2] Because eight *S*s that appear in Before group I do not appear in Before group II, it is important to show that there are no demonstrable differences in opinion between this subgroup and the other *S*s in Before group I at the time of the first administration. This is shown by medians of 40.2 and 40.0 and by a lack of a statistical difference as shown by the Mann-Whitney U test.

TABLE 1
MEDIAN PROBABILITY RATING ON THE OPINION STATEMENT: "INTERNAL CONDITIONS IN RUSSIA ARE FORCING THE COMMUNIST LEADERS TO ADOPT AN INCREASINGLY MORE AGGRESSIVE FOREIGN POLICY"[a]

Administration of the questionnaire	Group				
	Before	Immediate After	Intermediate After	Delayed After	Total After
			I		
First					
Dates	Before May 6	May 6	May 9-13	May 16-20	May 6-20
N	18	14	17	12	43
Mdn	39.9	45.0	40.0	35.0	40.5
			II		
Second					
Dates	Before May 6	May 6-13	May 16-20	May 23-27	May 6-27
N	10	22	17	12	51
Mdn	20.0	50.3*	50.5**	42.5	50.8*

[a] All tests of significance referred to in this table are one-tailed.
* Significantly different from the Before group at less than the .01 level.
** Significantly different from the Before group at the .025 level.

degree from the After II groups in three of the four comparisons, with Delayed After group II failing to differ significantly from Before group II. (The comparison between the Before group and the Total After group is, of course, not independent of the other three comparisons because the three After subgroups comprise the Total After group. Such a comparison seems to be worthwhile, however, because it compares the groups as a whole.) Thus, on a second asking, *S*s in Immediate After groups II, Intermediate After group II and Total After group II, as compared with Before group II, indicated that it was more probable that internal events in Russia were producing a more aggressive foreign policy. The After groups in fact considered it about a 50-50 chance that this would be the result.

One group of *S*s ($N = 8$) completed the first administration of the questionnaire prior to the U-2 incident and completed the second administration after it had occurred. A comparison of the before and after medians indicates that the difference is in the expected direction, but fails to reach statistical significance (before $Mdn = 40.2$, after $Mdn = 62.5$).

Median responses of the groups to the statement dealing with another world war are shown in Table 2. The differences are all in the expected direction, with a statistically significant difference in the case of the Before group I Immediate After group I comparison.[3]

[3] The eight *S*s that appear only in Before group I ($Mdn = 35.0$) do not differ significantly from the 10 *S*s comprising Before group II ($Mdn = 10.2$) on the first administration of the questionnaire.

TABLE 2
MEDIAN PROBABILITY RATINGS ON THE OPINION STATEMENT: "INTERNAL CONDITIONS IN RUSSIA WILL SOON CAUSE ANOTHER WORLD WAR[a]

Administration of the questionnaire	Group				
	Before	Immediate After	Intermediate After	Delayed After	Total After
			I		
First					
Dates	Before May 6	May 6	May 9-13	May 16-20	May 6-20
N	18	14	17	12	43
Mdn	17.5	49.8**	20.5	25.0	30.0
			II		
Second					
Dates	Before May 6	May 6-13	May 16-20	May 23-27	May 6-27
N	10	22	17	12	51
Mdn	17.5	50.0*	30.0***	30.0	39.8*

[a] All tests of significance referred to in this table are one-tailed.
* Significantly different from the Before group at the .006 level.
** Significantly different from the Before group at the .025 level.
*** Significantly different from the Before group at the .05 level.

The results of the second administration of the questionnaire show that Before group II is significantly different from Immediate After group II, Intermediate After group II, and Total After group II. The Delayed After group II opinions do not differ significantly from the Before group II opinions. As in the first administration, Immediate After group I shows the highest estimated probability that internal conditions in Russia will lead to another world war, this possibility being rated as virtually a 50-50 chance.

The group of *S*s who completed the first session prior to the U-2 incident and the second session after it show a statistically significant change at the 03 level (one-tailed test). The change is from a before *Mdn* of 35.0 to an after *Mdn* of 45.0, indicating a higher estimated probability that internal conditions in Russia will soon cause another world war.

2. *The Influence on Opinions of the First Administration of the Questionnaire*

Because of the above results showing the importance of the interval between the focal event and administration of the questionnaire, it is necessary to hold this interval constant in examining the effect of previous questionnaire experience on the opinions studied. For each opinion statement there are two relevant comparisons: the 21 *S*s in Immediate After group II who responded to the statement for a second time in the interval May 9-13 compared with *S*s in Intermediate After group I who gave their responses for

the first time during this same period, and the *S*s in Intermediate After group II who served for the second time in the experiment during the week of May 16-20 compared with the *S*s in Delayed After group I who responded to the opinion statements for the first time during that week. The results of these analyses are shown in Table 3.

TABLE 3
COMPARISONS SHOWING THE EFFECT OF THE FIRST ADMINISTRATION OF THE QUESTIONNAIRE[a] ON RESPONSES TO THE SECOND ADMINISTRATION, TIME INTERVAL SINCE EVENT HELD CONSTANT

Statement	Dates	Comparison	p^b
"Foreign policy"	May 6-13	Intermediate After I*/Immediate After II	.06
	May 16-20	Delayed After I*/Intermediate After II	$<.10$
"Another world war"	May 6-13	Intermediate After I*/Immediate After II	.004
	May 16-20	Delayed After I*/Intermediate After II	n.s.

[a] I = first administration of the questionnarie; II = second administration of the questionnaire.
[b] Two-tailed test of significance.
* Group with smaller median score.

As this table shows, only one comparison reaches the customarily accepted level of statistical significance—the comparison between Immediate After group II and Intermediate After group I on the item referring to another world war. The other differences are in the same direction, with a higher median for the second-session *S*s.

Another indication of the directional influence of a first administration of the items is seen in the increase in group median for each of the six independent After group comparisons. This increase occurs in spite of an opposite tendency with the passage of time since the U-2 incident—the Immediate After groups consistently obtain a higher median than the other After groups for both questions and both administrations.

D. DISCUSSION AND IMPLICATIONS

The data show systematic and statistically significant effects due to the U-2 incident in judgments of the probabilities of the truth of the two statements studied. The most marked change in opinion occurred immediately after the incident, on the day after the news broke. After a weekend of news, during which time the United States officially admitted that the plane was on a regular flight to gather cold war data and also during which time the Russian reaction to the incident was to become more visible, *S*s tended to see less probability that internal conditions in Russia would cause another

world war. This pattern—initial higher probability that stated undesirable results will occur followed by lower probability that this will happen—very likely reflects the role of subsequent information in modifying an initial reaction. Initial fears concerning the event are lessened as time passes and there is no war and other outcomes are utilized by the Russians (e.g., propaganda uses).

Mention should be made of the fact that the referent for the phrase "internal conditions in Russia" was likely quite different for the Before and the After groups. The Before groups responded to these items when there was no particularly outstanding development in the internal conditions in the Soviet Union, either politically, economically, or militarily. What front-page stories were taking place at that time concerned a shake-up of officials within the Soviet Union which was viewed as a move to get rid of some "deadwood" and move up young, competent men, and was not considered by observers to be a purge. *S*s who took the questionnaire after May 5th very likely had a specific point of reference for the "internal conditions in Russia" as the virtual flood of news via the mass media insured that students in a University community would be aware of the event. It was carried for the first time by evening newspapers on May 5 and by morning papers on May 6. *S*s whose opinions were assessed on Friday, May 6, were most given to believing that a more aggressive Russian foreign policy and another world war were forthcoming.

For the After groups, the effect of the first administration of the questionnaire on a second administration was to increase beliefs that internal conditions in Russia will have the stated effects. The Before group, when asked for a second time, showed no tendency to believe that the undesirable outcomes are more likely.

Here we may speculate to the effect that there is an interaction between asking for an opinion on these issues and the fact of the U-2 incident. The data on this point are meager, but they are consistent with commonsense psychology using the notion of frames of reference. Stated in a general way, where there is no specific point of reference for "internal conditions" supplied, *S* must determine his own. Left to his own devices, he selects either good or bad referents, and so his change from the first to the second asking may be in either direction or he may remain unchanged. Where a specific, negative referent is readily available, *S* tends to view the suggested bad effects of this referent as more probable when giving his opinion for a second time. For the case in point, thinking about another world war as a specific outcome of the U-2 incident makes it appear more probable.

E. Summary

Sixty-one *S*s were asked to indicate how probable they thought it was that internal conditions in Russia were forcing the Russians to a more aggressive foreign policy and were leading to another world war. Opinions on these issues were obtained using two items imbedded in a 48-item questionnaire. *S*s attended two experimental sessions, one week apart. Major analyses compared those *S*s who responded to the statements prior to the U-2 incident in early May, 1960, to subgroups of *S*s who responded to the statements at different intervals after the incident and to the Total After group.

The results from the first administration of the questionnaire show a marked tendency for the group of *S*s who were asked immediately after the U-2 incident to consider it more probable that internal events in Russia will produce another world war; *S*s who were asked the same questions four days to two weeks after the incident thought it less likely that the stated outcomes would occur. A similar but statistically nonsignificant trend was shown by the data from the question on foreign policy. The same pattern of differences and higher levels of significance were found on a second administration of both of the opinion statements. On giving their opinions for a second time, *S*s who were responding after the U-2 affair invariably thought it more probable that internal events in Russia would lead to a more aggressive foreign policy and to another world war, while *S*s responding for the second time before the event showed no such tendency.

References

1. Hovland, C. I. Reconciling results derived from experimental and survey studies of attitude change. *Amer. Psychologist*, 1959, **14**, 8-17.
2. Janis, I. L., Lumsdaine, A. A., & Gladstone, A. I. Effects of preparatory communications on reactions to a subsequent news event. *Public Opin. Quart.*, 1951, **15**, 487-518.

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THE OPERATION OF COGNITIVE DISSONANCE ON PRE- AND POSTELECTION ATTITUDES*[1, 2]

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A. PURPOSE

Festinger (1) states that "two cognitive elements are in a dissonant relation, if considering these two alone, the obverse of one element follows from the other" (pp. 260-261). Such dissonance is psychologically uncomfortable and should serve to motivate the person to reduce the dissonance and to achieve consonance (a state in which one of the cognitive elements follows from the other). In an election, dissonance may be created either by perceived imperfections in the candidate of choice or by perceived attractiveness in the opposition candidate. Festinger further states that the strength of the pressures to reduce dissonance is a function of the magnitude of the dissonance. As the moment of implementation of a decision draws near, the magnitude of dissonance should increase, and the individual will be more strongly motivated to reduce it. On this basis we hypothesized that subjects (*S*s) would see their chosen candidate as increasingly attractive, and the opposition candidate as increasingly unattractive, as election day approached. As a corollary of this, there should be an increasing tendency to dissociate the candidates and to see them as different from each other.

Following election day, and the confirmation or repudiation of the judgment of the *S*s, divergent reactions should occur in the supporters of the two candidates. Supporters of the winning candidate, having been granted social support for their judgment, should persist in their original attitudes, and, if change occurs, this should be in the direction of additional emphasis on already held views. Supporters of the losing candidate, having been denied social support, have recourse only to changing their opinion if they are to

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[2] This investigation was conducted at the University of Rochester during the author's tenure as a Postdoctoral Fellow of the National Institute of Mental Health, United States Public Health Service.

achieve consonance. This implies that the former group will see the candidates in the same relationship as previously, while the latter group will see the two men as increasingly similar.

In a study of the 1952 presidential election, Osgood, Suci, and Tannenbaum (4) have demonstrated that the semantic differential technique is sensitive to political attitudes. Ratings by Stevenson Democrats, Eisenhower Republicans, and Taft Republicans of key political concepts were strikingly different in a manner consistent with the conceptual differences between those groups. In a study of the 1960 presidential election, Stricker (5) has shown that the semantic differential is an adequate technique for use in the prediction of the voting behavior of *S*s who have made a decision as to their choice between the candidates. For these reasons, the semantic differential was utilized as the measuring instrument in this study.

Although the data will be viewed within the framework of the theory of cognitive dissonance, they are by no means solely interpretable in that manner. Many other theories of cognitive change could account equally well for the phenomena to be reported. For example, the concepts of consonance and dissonance utilized might, with slight modifications, be translated as the "balance" and "imbalance" of Heider (2) and the "incongruity" and "congruity" of Osgood *et al.* (4).

B. Procedure

The general procedures used in this study, including the specific semantic differential scales, have been fully described in an earlier study by Stricker (5). In brief, *S*s for the study were obtained in University of Rochester evening school classes, with the semantic differential administered during the class session on three different occasions. The *S*s were asked to rate an ideal president, Vice-President Nixon, and Senator Kennedy on 12 scales of the semantic differential (four from each of the evaluative, potency, and activity dimensions) on each of the three occasions. The method of presenting the semantic differential provided controls for scale order, page order, and order of presentation of the candidates for rating. The first administration was three weeks before election day, the second on the day preceding or on election day, and the third four weeks after the election. On each of these occasions the *S* was also asked to indicate his preference between the candidates. There were 170 paired protocols obtained for the pre-election period, and 154 paired protocols obtained for the postelection period.

C. Results

For each *S* a mean rating along each of the three dimensions for each of the three concepts was computed. The distance (D) scores between the profile for each of the candidates separately and the profile of the ideal president were also computed by means of the root-mean-square formula suggested by Osgood *et al.* This provided an estimate of the connotative distance in semantic space between the candidates and the ideal.

High reliability for the semantic differential ratings of the ideal president has already been reported in an earlier study (5). This assures that the D scores were being computed from a stable base, so that any change in D score could principally be attributed to a change in rating of the candidate, and also indicates that changes in the ratings of the candidate were due to attitude change rather than a lack of reliability of the instrument.

For each *S*, the crucial data were the D scores between each candidate and the ideal, and the mean evaluative rating of each candidate. A decrease in the D score, showing a tendency to view the candidate as closer to the ideal, and an increase in the evaluative score indicate a tendency to view the candidate as increasingly more attractive. In ratings of the chosen candidate these measures correlate —.44 and appear to provide reasonably independent tests of the hypothesis. On the other hand, in rating the opposition candidate these two measures correlate —.87, and are essentially equivalent.

1. *Pre-Election Period*

There were 170 *S*s whose paired protocols provided evidence as to the nature of the shift in attitudes during the three-week period before election day. A summary of the data from these *S*s is provided in Table 1. For both the Nixon supporters taken alone and for the group as a whole, the D score reflected a tendency to see the chosen candidate as increasingly attractive and the evaluative score reflected a tendency to see the opposition candidate as increasingly unattractive. For these groups, both the D score and the evaluative score reflect a tendency to dissociate the candidates and to see them as increasingly different from each other. Although all findings were directionally similar for the Kennedy supporters, differences did not reach a satisfactory level of statistical significance. There were no changes for any of the groups in the evaluative score of the chosen candidate or the D score of the opposition candidate.

TABLE 1
ATTITUDE CHANGE DURING THE PRE-ELECTION PERIOD

Direction of change	D score: Nixon supporters *N*	*p*	D score: Kennedy supporters *N*	*p*	D score: Total *N*	*p*	Evaluative score: Nixon supporters *N*	*p*	Evaluative score: Kennedy supporters *N*	*p*	Evaluative score: Total *N*	*p*
Own candidate												
More favorable	59		45		104		41		37		78	
		.001		n.s.		.001		n.s.		n.s.		n.s.
Less favorable	27		30		57		26		31		57	
Opposition candidate												
More favorable	38		34		72		24		28		52	
		n.s.		n.s.		n.s.		.001		n.s.		.001
Less favorable	52		45		97		55		38		93	
Distance between candidates												
Larger	56		42		98		53		43		96	
		.02		n.s.		.04		.003		n.s.		.001
Smaller	33		37		70		26		28		54	

2. *Postelection Period*

There were 154 *S*s whose paired protocols allowed us to assess the nature of the attitude changes during the four-week period following election day. These data are presented in Table 2. Here, the Kennedy supporters and the group as a whole showed a tendency to see both candidates as increasingly attractive, as reflected by the D score for the chosen candidate and by both scores for the opposition candidate. The Nixon supporters also showed a tendency to see Kennedy as increasingly attractive, as reflected by both scores, but did not record any consistent change in attitude toward their own candidate. For both the Nixon supporters and the group as a whole, both the D score and the evaluative score showed a tendency to see the candidates as increasingly similar. Again, the findings for the Kennedy supporters were directionally similar but not statistically significant. In no case was there a consistent change in the evaluative score assigned to the chosen candidate.

D. Discussion

The semantic differential criteria chosen for evaluating the hypotheses seemed, with one exception, to be adequate for the task. That exception was the evaluative score assigned to the chosen candidate, which in no case showed a significant change, although we had predicted that this score would increase in every case with the exception of the postelection rating by the supporters of the losing candidate. In retrospect, this appears to be due to an artifact introduced by the measuring instrument rather than by a failure of the hypothesis. Because the evaluative ratings of the chosen candidate approached the extreme of the scale at the first administration, the *S*s could not indicate the development of more favorable attitudes toward their choice by means of increasing this rating.

However, while the semantic differential provided a useful measuring instrument, it appears that the location of a candidate in a three-dimensional space did not allow for an increased refinement in the technique. Except for the artifactual rating of the chosen candidate, the evaluative rating provided a test of the hypothesis which was as strong or stronger than the D score in every case, as reflected by the significance levels in Tables 1 and 2. We can further recall that the correlation between these two measures for the opposition candidate showed them to be virtually equivalent, and we suspect that the correlation for the chosen candidate was strongly and artifactually attenuated by the restricted range of the evaluative ratings of the chosen candidate.

TABLE 2
ATTITUDE CHANGE DURING THE POSTELECTION PERIOD

Direction of change	D score: Nixon supporters N	p	D score: Kennedy supporters N	p	D score: Total N	p	Evaluative score: Nixon supporters N	p	Evaluative score: Kennedy supporters N	p	Evaluative score: Total N	p
Own candidate												
More favorable	44	n.s.	53	.001	97	.001	26	n.s.	32	n.s.	58	n.s
Less favorable	33		15		48		29		18		47	
Opposition candidate												
More favorable	61	.001	49	.001	110	.001	55	.001	45	.001	100	.001
Less favorable	22		21		43		20		18		38	
Distance between candidates												
Larger	27	.003	29	n.s	56	.001	20	.001	26	n.s.	46	.001
Smaller	55		42		97		50		39		89	

This failure of the dimensions of meaning orthogonal to the evaluative to contribute to our understanding of the process of attitude change reinforces a previous finding (5) that the D score and the evaluative rating were virtually equivalent as predictors of voting behavior. These results seem to have an implication for semantic differential methodology. Apparently, in an artifact-free design concerned with the study of political behavior, nonevaluative adjective pairs add little other than a buffer effect to our understanding of the situation. We might infer similar implications for attitudinal studies in nonpolitical areas, but these have not been demonstrated as yet. A further implication concerns the nature of the attitude change during these periods. It would seem that political attitude is very strongly loaded on the evaluative dimensions, and the orthogonal dimensions of meaning add little variance to this attitude.

It is possible to conceptualize the pre-election period as either a predecision or a postdecision period, with the dissonance generated seen as either accompanying or following from the decision-making process. If it is a predecision period, we would consider that the decision is in a period of incubation and not actually made until the formal casting of the ballot commits the individual to one candidate or the other, while if it is a postdecision period the casting of the ballot would be seen as nothing more than the implementation of a decision that, to all intents and purposes, has been made some time previously. In our sample only three *S*s signified a preference on election day that differed from the preference indicated three weeks before. This would seem to support the alternative that the three-week pre-election period chosen for this study is actually a postdecision period, and the attitude change is a product of postdecision dissonance. The impending implementation of the decision should increase the magnitude of any perceived dissonance, since these doubts would assume larger proportion when the decision must be acted upon. For the group as a whole, we see that, as predicted, the chosen candidate was seen as more favorable, the opposition candidate as less favorable, and the candidates as more distant from each other. Nixon supporters, taken alone, also reflected this trend. The findings for Kennedy supporters, while directionally similar, did not reach statistical significance.

The situation following the election was more complex in that one of the groups had received social support for their judgment while the other group had been denied this support. The Kennedy supporters, who had been confirmed in their judgment, showed a tendency to view both candidates more favorably. The distance between the candidates did not change to a statistically significant extent, although there was a trend toward reducing this dis-

tance. The change with regard to their chosen candidate and the distance between the candidates had been predicted on the grounds that with social support these *S*s would maintain and intensify their original views. On this basis, we would predict that they would see Nixon either in the same way or less favorably now that their judgment of him had been nationally endorsed. However, they viewed Nixon in a more favorable light. In the absence of internal research evidence we must indulge in *a posteriori* speculation. Following the election the perception of attractive qualities in the safely defeated Vice-President Nixon was not likely to produce a great deal of dissonance for Kennedy supporters. On the contrary, the perception of Nixon as an able man highlighted the greater abilities they perceived in their own choice. This would leave them comfortably free to adopt a more favorable attitude toward the defeated candidate.

The Nixon supporters, having been denied social support for their judgment, did not change their attitude toward their candidate in any consistent manner, but they did view the opposition and victorious candidate more favorably. As a result, the distance between the candidates was greatly reduced. We had predicted that in the face of public repudiation of their judgment, these *S*s would have to change their opinion in order to achieve consonance. They did this with regard to Senator Kennedy, although they did not with Vice-President Nixon. It is as if they are saying that their error was not in the perception of their own candidate, but rather in their underestimation of the opposition candidate.

The tendencies in attitude change following the election that are noted here, and interpreted within the framework of the theory of cognitive dissonance, are not without precedent in previous work. Lipset, Lazarsfeld, Barton, and Linz (3), in a review article, state about this postelection period, "There is a strong tendency to reconciliation. People who opposed a candidate bitterly a few weeks earlier will now feel that, after all, he might be as good a choice as any other" (p. 1164). Apparently this reconciliation operates for the supporters of the victorious as well as of the defeated candidate.

This study investigated changes in predecision and postdecision attitude as defined by a single pre- and posttesting situation. It would be interesting and instructive to examine attitude change as a function of shorter and more frequent intervals. There probably is a time before the election when the individual is ruminating over his choice, and we may find that attitudes remain stable, or change only slightly, up until the decision is made, when they are modified sharply in the manner shown. There is also quite probably a time very shortly following the election when attitudes are sharply modified, after which we would predict that they level off and become stable.

E. Summary

The semantic differential was administered three weeks before election day, on election day, and four weeks after election day to *S*s who were asked to rate an ideal president, Kennedy, and Nixon, and to indicate their preference. These were 170 *S*s who gave paired protocols for the pre-election period and 154 *S*s who gave paired protocols for the postelection period. During the pre-election period attitudes toward the chosen candidate tended to become more favorable, toward the opposition candidate less favorable, and the candidates were seen as becoming increasingly distinct. During the postelection period, attitudes toward both candidates tended to become more favorable, and the candidates were seen as becoming increasingly similar. The data were interpreted from the framework of the theory of cognitive dissonance.

References

1. Festinger, L. A Theory of Cognitive Dissonance. Evanston, Ill.: Row, Peterson, 1957.
2. Heider, F. The Psychology of Interpersonal Relations. New York: Wiley, 1958.
3. Lipset, S. M., Lazarsfeld, P. F., Barton, A. H., & Linz, J. The psychology of voting: An analysis of political behavior. In G. Lindsey (Ed.), *Handbook of Social Psychology (Vol. II)*. Cambridge, Mass.: Addison-Wesley, 1954. Pp. 1124-1175.
4. Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. The Measurement of Meaning. Urbana: Univ. Illinois Press, 1957.
5. Stricker, G. The use of the semantic differential to predict voting behavior. *J. Soc. Psychol.*, 1963, **67**, 125-131.

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LIBERALISM VERSUS ATTITUDE SOPHISTICATION IN COLLEGE WOMEN* [1]

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A. PURPOSE

The doubt has been expressed by previous writers that what passes for liberalism in college students may often be only sophistication or a "collegiate veneer" (2, 4, 7, 8), and, conversely, that what is identified as authoritarianism may often be only naïveté (3, 6).

As part of a larger factor-analytic study of the Vassar Attitude Inventory scales (1), variables were introduced to test for the existence of separate liberalism and sophistication factors.

The relevant Vassar scales are Social Maturity and Developmental Status. Social Maturity is a scale developed with the California F scale as a criterion and scored so as to measure *non*authoritarianism [see (13) for report on the F_4 scale, which is identical to Social Maturity except for direction of scoring]. Developmental Status is a scale built out of items found to discriminate significantly between Vassar College seniors and freshmen and scored in the direction favored by seniors. It measures the first principal component of these items, which has been identified as "rebellious independence" (11). The content of these two scales, consisting of 147 and 72 true-false items respectively, covers most of what is generally represented in inventory measures of liberalism.

It was hypothesized, however, that the variance of these scales would be accounted for by two distinct liberalism factors: one, a kind of liberalism that would be characterized by such adjectives as "active," "responsible," "deeply felt," and "integrated into the personality;" the other, characterized by such adjectives as "superficial," "verbal," "irresponsible," and "intellectualized." It was expected that Social Maturity and Developmental Status would have substantial loadings on both factors, but that their largest loadings

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[1] The research reported herein was performed while the writer was with the Mary Conover Mellon Foundation, Vassar College, and was performed pursuant to a contract with the United States Office of Education, Department of Health, Education, and Welfare.

would be on the latter factor, which we shall call Attitude Sophistication. It was further predicted that Developmental Status, being more concerned with rebellious and conspicuously unconventional attitudes, would have a higher loading on this factor than would Social Maturity, but that on the other factor, which we shall call Liberalism, Social Maturity would have the higher loading.

The following additional distinctions between the two factors were hypothesized:

1. In contrast to the verbal measures mentioned above, more overt indicators of liberalism versus conservatism, such as voting behavior and religious practices, would correlate more highly with the Liberalism factor. The closest we could come to overt indices of liberalism were data on biographical information blanks which *S*s filled out at the time of testing, concerning political and religious preferences. A two-point scale was used, scoring one point if *S* listed her political preference as "Democrat," "Liberal," or (if both parents were listed as Republicans) "Independent." The other point was given for listing religious preference as "None," "Agnostic," "Doubtful," etc.

2. Liberalism would be associated with a respect for lawful conduct and willingness to perform civic duties, whereas Attitude Sophistication would be associated with contempt for such things. The Responsibility scale of the California Psychological Inventory was included to test this hypothesis. Its item content is largely in this area, and scores on Responsibility have been found to correlate positively with ratings on intellectual competence, integrity and responsibility, and fairmindedness (5).

3. In college students Sophistication, as opposed to Liberalism, would be associated with unresolved conflicts with parents. This hypothesis stemmed from the view that superficial liberalism in college students may be a way of rebelling against conservative parents whereas genuine liberalism involves more positive motives. This hypothesis was tested by Rebellion Against Parental Authority, a four-item scale based on the student's use of the adjectives "oversolicitous," "domineering," "possessive," and "nagging" in describing her parents on an adjective check list.

4. Sophistication would be related to a more general and pervasive tendency toward skepticism and relativism. This hypothesis took the form of a prediction that the Sophistication factor would be negatively correlated with the Uncritical Generalization scale.

Uncritical Generalization grew out of an experiment to see whether a

reliable measure of acquiescent response set could be constructed that was uncorrelated with another reliable measure of acquiescent response set, Repression or Suppression (12). It was developed out of a 100-adjective check list on which *S*s described the "average" woman. The same method of scale development was used as that employed by Webster (1960), with the additional requirement that the items have correlations not exceeding ±.15 with Repression or Suppression. The final version of the scale contained 49 items, all but five of which were scored true. Its correlation with Repression or Suppression in a sample of 249 *S*s was .11.

Examination of the item content, especially with regard to the five negatively scored items, suggested that something more than simple acquiescence was involved in the scale. The bulk of the positively scored items were midly favorable adjectives: e.g., "always smiling and pleasant," "forceful," "humble," "self-confident," "trusting," and "warm." The five negatively scored items were "critical of others," "impatient," "selfish," "snobbish," and "sometimes disrespectful." It appeared that a high score on the scale, beyond reflecting a tendency to say "yes," also represented a tendency indiscriminately to attribute all favorable characteristics to the average woman regardless of the rarity of these traits. Low scores seemed to indicate a tendency to ascribe fewer traits to the average woman, hence to resist over-generalization, and also to present a less uniformly favorable description of her.

5. Closely related to the above was the prediction that Sophistication would be negatively related to simple acquiescent response set. This was measured by Adjective Checking, a variable based on the same check list of adjectives describing parents as that used for the Rebellion Against Parental Authority scale mentioned above. The score was simply the total number, out of a possible 30, of adjectives checked. These adjectives were about evenly divided between favorable and unfavorable ones.

An eighth variable will be described which had not been hypothesized to have any bearing on the Sophistication-Liberalism distinction, but which did to a remarkable extent. This was the variable labeled Visits Psychiatrist, which assigned a score of one to *S*s who had visited the college psychiatrist at least once during their four years of college and a score of zero to those who had not. Approximately a third of the *S*s used in the study had visited the psychiatrist.

Nine other variables, intended to test other sorts of hypotheses, were included in the analysis.

B. Procedure

Complete data were available for 249 women from one Vassar College graduating class. All scores except that for liberalism were based on freshman data. Senior scores were used for Liberalism because the freshman scores were so low as to have insufficient variance. Product-moment correlations were calculated among the variables, except that biserial correlations were used between Visits Psychiatrist and the other variables. Two iterations of a centroid factor analysis yielded six factors. After orthogonal graphic rotations, four nontrivial factors remained.

C. Results

The first two factors, which will not be discussed in this paper, were identified as Impulse Expression and Sense of Social and Emotional Well-Being. Factors III and IV and the variables that had or were predicted to have significant loadings on them are presented in Table 1. Factor III

TABLE 1
Loadings on Two Orthogonal Liberalism Factors
($N = 249$ women college undergraduates)

Variables	Factors III	Factors IV
1. Social Maturity	.63	.44
2. Developmental Status	.65	.36
3. Liberalism	.00	.57
4. Responsibility	—.22	.26
5. Rebellion Against Parental Authority	.03	.10
6. Uncritical Generalization	—.30	—.14
7. Adjective Checking	—.39	.03
8. Visits Psychiatrist	—.05	.53

closely resembles the hypothesized Attitude Sophistication factor and Factor IV resembles the Liberalism factor. The only hypothesis, in fact, that was not borne out was the one concerning Rebellion Against Parental Authority. Instead of loading Sophistication, it had negligible loadings on both the factors in question and had its only significant loading (.34) on the Impulse Expression factor.

The differences in loadings between Developmental Status and Social Maturity, though in the hypothesized direction, are very slight. What is more noteworthy is that, as hypothesized, they both have considerably higher loadings on the Sophistication factor than they do on Liberalism. In addition to their loadings on Factors III and IV, Developmental Status had a loading of .55 on Impulse Expression and Social Maturity had a loading of .36

on Sense of Social and Emotional Well-Being. The loadings of Responsibility on Factors III and IV are of sufficient size to provide some support for the hypothesized distinction between Sophistication and Liberalism with regard to Responsibility, but its largest loading was one of —.50 on Impulse Expression, which suggests that Responsibility has a substantial docility or conventionality component. The loading of Visits Psychiatrist on Liberalism was quite unexpected. It had a loading of only —.17 on the Sense of Social and Emotional Well-Being factor which it had been predicted to load.

Adjective Checking and Uncritical Generalization proved to have little communality in this analysis, although what there was was accounted for in the hypothesized way. As a further check on the relation of acquiescent response set to the factors, a technique due to Messick and Jackson (9) was employed, correlating the factor loadings of variables with the percentages of items scored true on the variables. Using rank-order correlations over 13 variables, Sophistication correlated —.56 with acquiescence, while Liberalism correlated —.27 with it (a smaller correlation than that between acquiescence and any of the other nontrivial factors).

D. Discussion

Within the limits of the cogency of the variables employed, distinct factors of Liberalism and Attitude Sophistication have been identified. Attitude Sophistication emerges as a tendency to give verbal expression to liberal attitudes. Associated with it is skepticism, nonacquiescence, and a tendency to reject civic responsibility. The hypothesized relation between Attitude Sophistication and rebellion against parents was not borne out by the results. Liberalism is less determined by verbalized attitudes, more by overt behavior. It is associated with acceptance of civic responsibility and is not related to acquiescent response set.

The puzzler, however, is the connection between Liberalism and visiting the college psychiatrist. The psychiatrist in question, Dr. Robert E. Nixon, has published an article on the Vassar students who see him that suggests a basis for such a connection. He describes these students as "articulate, open, intelligent adolescents, presumably psychologically normal." They differ from other kinds of students not in the kind or severity of the problems they encounter but rather in their openness to them and by their efforts to solve them through the active pursuit of self-knowledge rather than through reactive or repressive behavior (10). If this be true, then it makes sense that these students should be the kind who would develop the kind of integration of attitudes, personality characteristics, and overt actions that seems to be identi-

fied with Liberalism rather than Attitude Sophistication. Unfortunately for the prospects of further study of this interesting point, the relationship between Liberalism and visiting a psychiatrist is not likely to be the same anywhere that the student-psychiatrist relationship or the context in which it operates is very different from that at Vassar.

The value of the present results lies not in showing that liberalism is different from sophistication of attitudes—this is a commonplace that hardly needs verification—but rather in showing that it is possible to distinguish the two empirically. If the two kinds of attitudes can be measured separately, it should be possible to clear up some of the ambiguities surrounding such matters as the correlates of authoritarianism, changes in attitudes during college, and cultural and group differences in social attitudes.

Several suggestions for developing instruments to distinguish these two attitude factors are afforded by the present results. They indicate that liberalism may be distinguished from sophistication by seeking more overt indices of liberalism to balance against the verbal measures. Although overt behavior is often inaccessible to direct measurement, it would appear that indirect measures, such as self-reports on voting and religious behavior, can be discriminating. Measures of acquiescent response set and of skepticism also show promise of distinguishing the two factors. The relation of Responsibility to the two factors, though weak, came the closest of any to being diametrical. For this reason and because, conceptually, responsibility is so central to the distinction between genuine and pseudoliberalism, it would appear well worthwhile to try to develop a scale to measure responsibility more purely and as distinct from docile obedience to regulations and expectations.

E. Summary

From a factor analysis of 17 attitude and personality variables on 249 Vassar College women students, factors identified as Attitude Sophistication and Liberalism emerged. Attitude Sophistication was characterized by expression of liberal attitudes, by rejection of civic responsibility, and by critical, nonacquiescent response set. Liberalism was characterized to a lesser extent by verbal expression of liberal attitudes, more by indications of overt liberal behavior. It was related to acceptance of civic responsibility and to visiting the college psychiatrist, but was relatively independent of response set. Separation of Attitude Sophistication from Liberalism in future studies of authoritarianism would appear desirable.

References

1. Bereiter, C. A Factor Analysis of the Vassar Attitude Inventory Scales. Poughkeepsie, N.Y.: Mellon Foundation, Vassar College, 1960.
2. Bereiter, C., & Freedman, M. B. Fields of study and the people in them. In N. Sanford (Ed.), *The American College*. New York: Wiley, 1962. Pp. 563-596.
3. Carey, G. L., Rogow, A. A., & Farrell, C. The relationship between the F Scale and aphorism usage and agreement. *J. of Psychol.*, 1957, **43**, 163-167.
4. Cohn, T. S. The relation of the F Scale to intelligence. *J. Soc. Psychol.*, 1957, **46**, 207-217.
5. Gough, H. G. Manual for the California Psychological Inventory. Palo Alto, Calif.: Consulting Psychologists' Press, 1957.
6. Gregory, W. E. The orthodoxy of the authoritarian personality. *J. Soc. Psychol.*, 1957, **45**, 217-232.
7. Jacob, P. E. Changing Values in College. New York: Harper, 1957.
8. Loevinger, J. A theory of test response. *Proc. 1958 Invit. Conf. Test. Probl., Educ. Test. Serv.*, 1959, 36-47.
9. Messick, S., & Jackson, D. N. Acquiescence and the factorial interpretation of the MMPI. *Psychol. Bull.*, 1961, **58**, 299-304.
10. Nixon, R. E. An approach to the dynamics of growth in adolescence. *Psychiatry*, 1961, **24**, 18-31.
11. Webster, H. Changes in attitudes during college. *J. Educ. Psychol.*, 1958, **49**, 109-117.
12. ———. The meaning of response set in personality inventories. *Amer. Psychologist*, 1960, **15**, 431.
13. Webster, H., Sanford, N., & Freedman, M. B. A new instrument for studying authoritarianism in personality. *J. of Psychol.*, 1955, **40**, 73-84.

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THE RELATIONSHIP OF PERSONALITY AND NONPERSONALITY FACTORS TO PREJUDICE*[1]

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A. INTRODUCTION

Individualistic theories of prejudice conceive of prejudiced behavior as a result of the *needs* of individual personalities, functioning as a psychological mechanism satisfying inner requirements. Different personality theories agree on the nature of prejudice, but differ in detail, such as which needs are thwarted (17). Three major subtypes are: Frustration-Aggression (7), Alienation-Anomie (e.g., 12, 14), and the Authoritarian Personality (1). The first asserts the relevance of any frustrated drive and the second stresses a frustrating effect of certain conditions of the social order upon personality.

Undoubtedly the foremost attempt to account for prejudice on the basis of personality is the *Authoritarian Personality* (1). Although quite intensive studies have been undertaken to verify it, the theory itself is rather simple. Ethnocentrism, a generalized form of prejudice, is especially manifest in a particular type of personality, which is characterized by rigid adherence to conventional middle-class values, admiration for power and toughness, generalized hostility, and others. The genesis of this personality is traced to childhood, where the family is seen as the major causative agent.

The sociological position holds that there are differences in prejudiced attitudes by groups. Rather than focusing on personality weaknesses, it is concerned with "the average life experiences of such groups, the different cultural materials to which they are exposed, the typical sequences of status threats and anxieties they experience, differentially from others, and the different ways in which their experiences . . . and images . . . enter as ingredients in their orientation . . ." (15, p. 29). Thus, if older people, for example, are seen to be more prejudiced, a study of their situation would be more rewarding than a diagnosis of their personalities.

These two approaches are not necessarily in diametrical opposition. Of

* Received in the Editorial Office on October 8, 1962. Copyright, 1964, by The Journal Press.

[1] A condensation of a portion of the author's unpublished Doctoral thesis (17).

several possible relationships, the one that most readily reconciles both positions is that a differential distribution of personality types corresponds to these group differences. This explanation would be congruent with the sociological position, where different types of personalities are seen either developing as a result of specific experiences, or gravitating to particular groupings. (The latter would be appropriate for certain classifications only, such as educational levels, but not for others, such as age.) While there are sufficient findings to indicate that there are some personality differences between social classes (10), there is no evidence, for example, of a preponderance of authoritarian personalities in the South over the North (2, 5). The other possibility is that prejudice-prone personalities are more or less randomly distributed throughout the population and differences in prejudice *within* social groupings are attributable, at least in part, to personality factors. Parts of our data are relevant to the problem.

Those most frequently researched and discussed of the sociological factors are education, occupation and income (social class), religion and frequency of church attendance, age, area of residence, mobility, and sex (13). The most important variable is education, which is negatively related to prejudice (9, p. 1046). There is general agreement that prejudice varies by class and income (1), although the findings are not entirely consistent. Several studies also indicate that there are less prejudiced people in the younger age group (3, 11). Results of other factors are often so contradictory that it would be hazardous to make generalizations.

The purpose of this study is to explore the importance of both personality and nonpersonality factors as they relate to attitudes of prejudice. Specifically, the objectives are an examination of:

1. The relative adequacy of personality to nonpersonality factors as they affect prejudiced attitudes.

2. The relationship between them. That is: (*a*) How much more is explained by a combination of personality and nonpersonality factors? (*b*) To what extent is personality independent of nonpersonality factors and *vice versa?*

In addition, the correlations of prejudice to each of the sociological factors are presented.

B. Method

Secondary analysis is employed on a body of data originally collected by Professor Herbert McClosky for the purpose of investigating correlates of

political affiliation.[2] The study consisted of a cross-section sample of Minnesota adults ($N = 1082$) who completed a lengthy questionnaire which included the E and F scales from the *Authoritarian Personality* and the following questions on the respondent's social position: Age, Sex, Marital Status (married-single-widowed-divorced), Education, Self-Employed or Work for Others, Number of Organizations Belonged to, Income, Religion (Protestant-Catholic-Jew-other), Frequency of Church Attendance (never-not very often-fairly often-very often), Current Residence (farm-town-city), Where Raised (farm-town-suburb-city), Intergenerational Economic Mobility (better off-same-worse off than parents). With the exception of the questions on organizations and self-other employment, which were included because of their availability, the other questions cover rather completely those variables most frequently studied in the sociological literature.

In view of the inconclusive findings with the sociological variables, we decided, rather than use any one single variable, to combine the entire group by means of multiple correlations. To evaluate the relative importance of personality to the nonpersonality variables, the multiple correlations are then compared to the correlations obtained with the F scale. There is no loss of specificity in this procedure, for the standardized partial regression weights of the multiple regression equation as well as the zero-order correlations designate the most important variables.

1. *The Measures of Personality and Prejudice*

The original study included both the Authoritarian (F) and Ethnocentrism (E) scales, as well as over 500 statements which comprised the items of 61 scales. On the basis of these statements, two new scales were constructed: Frustration (X_2) and Anomie (X_4). These two scales plus the F scale (X_3) were combined into a multiple correlation with the E scale (X_1). This is denoted as $R_{1.234}$. For purposes of comparison, the correlations of the F and the E scale are reported in the table.

2. *Statistical Procedure*

One of the assumptions of the bivariate and multivariate distribution is that the distribution be continuous. In the study, Age, Education, and Annual Income meet this requirement. The response categories to the questions of "Frequency of Church Attendance" and "Status Relative to Parents" represent an underlying continuum, and the numbers 0 to 3 and 0 to 2 have been used to designate points on the continuum.

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[2] Grateful acknowledgement is made to Professor McClosky for use of these data.

Sex, Marital Status,[3] Employment, and Religion[4] are clearly of a categorical nature. However, where there are only two categories of response, the Pearsonian correlation may be used instead of biserial correlation.[5]

There are two questions which present some difficulty: "Where do you live?" and "Where were you raised?" The possible responses to the first are "city," "town," "farm" and to the second "farm," "small town," "suburb," "city." As the vast amount of literature on the rural-urban dichotomy gives evidence that the order of farm-town-city is in proper sequence, these responses have been converted to numbers 0, 1, 2. We are well aware that the traditional statistical argument is against correlational analysis with noncardinal level of measurement. Our position is that if the numbers are properly related to the data, the fact that they do not represent equal-appearing intervals will not seriously distort the findings. And although the correlation between residence and other variables may not state the exact relationship existing in the "real world," it is, at the very least, an heuristic measure.

The ordering of "suburb" in the latter poses a dilemma: Should it be between "town" and "city" or after "city"? As only 34 individuals reported living in the suburbs, this problem can be avoided. Assuming that suburbanites resemble urbanites, we have combined these two groups. In the event that these 34 respondents were misplaced, there would be but a 3 per cent error.

3. *Class as the Stratified Variable*

Because of evidence of the relationship between class and prejudice, as well as its theoretical importance, we felt it necessary to stratify the sample on this basis. Using occupation as an index of class and employing the U.S. Census classification, the sample has been divided into four groups: I—Managerial and Professional ($N = 272$), II—Clerical and Craftsmen ($N = 290$), III—Operatives, Domestics, Service Workers, and Laborers ($N = 199$), and IV—Farmers ($N = 199$). The occupation question was, of course, omitted from the multiple regression equation, giving a total of 12 independent nonpersonality variables.

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[3] As 929 of 1082 respondents indicated they were married, the responses were scored as married [0] and nonmarried [1].

[4] Fourteen Jews and 18 who belong to religions other than the three major ones were excluded.

[5] Biserial correlation is derived from the product-moment coefficient (16, p. 262). Male, Self-Employed, and Catholic were each given a zero code; Female, Other-Employed, and Protestant were designated as one.

C. Results

Table 1 presents all the relevant correlation coefficients. For the F and E scale correlations (row 1), only Class III differs significantly from the others, being less than that of Class I ($p = .01$) or Class IV ($p = .05$).

TABLE 1
Correlations of the E Scale with Personality and Nonpersonality Variables*

Variables intercorrelated	Social class I	II	III	IV
r_{14}	.62	.56	.44	.59
$R_{1.234}$	.65	.61	.51	.65
$R_{1.5\text{-}16}$	.35	.30	.44	.52
$R_{1(234).5\text{-}16}$	.62	.58	.44	.54
$R_{1(5\text{-}16).234}$	.27	.17	.33	.32
$R_{1.2\text{-}16}$	.68	.63	.58	.70

* X_1 = Ethnocentrism, X_2 = Frustration, X_3 = Authoritarian Personality, X_4 = Anomie, X_5 = Age, X_6 = Sex, X_7 = Marital Status, X_8 = Education, X_9 = Employment (self or other), X_{10} = Number of Groups Belonged to, X_{11} = Annual Income, X_{12} = Religion, X_{13} = Frequency of Church Attendance, X_{14} = Area of Residence, X_{15} = Where Raised, X_{16} = Economic Status Relative to Parents.

The multiple correlations obtained with the three personality scales combined are presented in row 2. It is seen that not very much is gained by the inclusion of the other two personality scales.

Row 3 reports the multiple correlations for all the nonpersonality variables with the E scale ($R_{1.5\text{-}16}$). The amount of variance accounted for by the entire set (R^2) ranges from .09 to .27, and the correlations are greater in Classes III and IV. To evaluate the relative importance of personality to sociological factors, we simply compare these two correlations. This comparison shows that ethnocentrism is more closely related to personality than nonpersonality factors throughout the entire population, although the relative differences are less in Classes III and IV.

In examining the relationship between prejudice and personality, it is pertinent to inquire whether they are altered when nonpersonality factors are held constant. This is done by means of the multiple-partial coefficient, which is a multiple correlation between a dependent variable and several independent variables, controlling for one or more independent variables (4, 8). Row 4 gives the correlation of E to personality, holding constant the 12 nonpersonality variables. For Classes I and II, there is but a slight decrease in the correlation as compared to $R_{1.234}$, indicating that sociological variables

do not affect the personality-prejudice relationship. Classes III and IV are affected somewhat more by nonpersonality factors.

Row 5 gives the relationship of E to nonpersonality factors, holding personality constant. These results approximate those seen with nonpersonality factors held constant. There is a small decrease, being greater in the latter two classes, when personality is controlled, indicating a small degree of interaction between personality and nonpersonality factors.

Since we have established that personality and nonpersonality variables are separately related to prejudice, we now raise the question of the degree of association when both sets are combined into one group of independent variables. As seen in row 6, this combined set ($R_{1.2\text{-}16}$) accounts for .34 to .49 of the variance. A comparison with $R_{1.234}$ shows that, although the combination of personality and nonpersonality factors explains more than personality measures alone, the amount gained by the inclusion of nonpersonality variables is not large.

The partial regression weights in Table 2 indicate the contribution of the sociological variables relative to each other. The zero-order correlations of Table 3 signify the direct relationship of the E scale to the nonpersonality variables. It is noted that Education and Age are related to prejudice in all

TABLE 2
STANDARDIZED PARTIAL REGRESSION WEIGHTS OF NONPERSONALITY VARIABLES IN REGRESSION EQUATION $R_{1.5\text{-}16}$

Variable	Social class I	II	III	IV
Age	.34	.15	.18	.15
Marital Status	.12			
Education	—.25	—.16	—.24	—.31
Self-Employment	—.16			
Groups				—.16
Where Raised			—.14	

TABLE 3
SIGNIFICANT ZERO-ORDER CORRELATIONS OF THE E SCALE WITH NONPERSONALITY VARIABLES

Variable	Social class I	II	III	IV
Age	.34	.20	.31	.31
Education	—.28	—.24	—.33	—.41
Self-Employment	—.18			
Groups				—.20
Income		—.11		
Religion				—.17
Where Raised	—.11	—.11	—.21	—.12

classes and that other variables are associated with the E scale for a given class only.

D. Discussion

The amount of variance explained by nonpersonality factors for the Professional and Clerical classes is not very large, .12 and .09, respectively. A comparison of these with the personality correlations ($R_{1.234}$) shows that in the first two classes over three times more of the variance is explained by the latter set of variables. In Classes III and IV, the personality correlations are also larger than the nonpersonality ones, but the differences between them are less than in Classes I and II. Tables 2 and 3 present relevant data to test whether nonpersonality factors yield a high correlation in the latter two classes because more sociological variables are associated with the E scale. Although the regression weights do not disclose any differences among the classes (Table 2), the correlations are a little more revealing (Table 3). Class IV, with the largest $R_{1.5\text{-}16}$, has more variables, with higher correlations, than any other class, and Class II, with the lowest $R_{1.5\text{-}16}$, has the lowest correlations. It would thus seem that in Class IV, the larger multiple correlation is explained in small part by the additional number and magnitude of the correlations. But since no differences are found with the partial regression coefficients and since the simple correlations under discussion are of low magnitude, the larger multiple correlations are mainly attributable to the stratified factor—social class. We cannot, at this point, specify how class operates in this relationship, but it should be noted that the largest correlations are found ($R_{1.5\text{-}16}$) in the two lowest classes. In terms of the first objective of this study, we conclude that personality is a more important influence on prejudiced attitudes than are group forces.

The significant relationships of Education and Age to E in all classes and the high degree in similarity in the size of the correlations among the classes strongly indicate that many of the sociological factors which give rise to prejudice are the same for all classes. The fact that other variables are related to the E scale in just one class suggests the operation of specific group forces as well. It might be that the reason that past research has been inconclusive for a number of nonpersonality variables is that many studies used smaller samples and consequently were unable to control for social class.

When we examine how much of the variance is accounted for by personality and nonpersonality factors combined ($R_{1.2\text{-}16}$), we see that there is but a slight increase over the correlations obtained with personality alone ($R_{1.234}$). In other words, *not much more is explained by the addition of the 12 non-*

personality variables. In Class III, for example, $R_{1.2\text{-}16} = .58$, but $R_{1.234} = .51$. This finding strongly indicates that *personality and nonpersonality factors are very much related to each other throughout the population.*

This conclusion must now be reconciled with the findings of the multiple-partials ($R_{1(234).5\text{-}16}$ and $R_{1(5\text{-}16).234}$) that, in Classes I and II, nonpersonality factors hardly affect the relationship between E and personality; and, likewise, $R_{1.5\text{-}16}$ is barely changed when nonpersonality factors are controlled. With either set of variables held constant in Classes III and IV, there is a larger decrease in the size of the correlations, but the absolute difference is not very large. Surely, if both sets of independent variables are sufficiently related to one another, a greater decrease in the size of the correlations would be expected when one set of independent variables is held constant. We suggest that when either set of independent variables is held constant in the first two classes, the prejudice relationship is essentially unaltered because of the original low correlations of $R_{1.5\text{-}16}$. In Class III, the multiple-partials do, to an extent, reduce the size of the original relationship. Class IV (and Class I) has the largest personality correlation, and here the amount of reduction due to controlled variables is greater.

E. Summary

The purpose of this study was to examine the relationship between personality and nonpersonality factors in terms of prejudiced attitudes. The principle findings are:

1. For all classes, personality is much more related to the E scale than nonpersonality.

2. The differences between personality and nonpersonality factors are less in Classes III and IV than in Classes I and II.

3. The amount of variance accounted for by the combined set of factors, personality and nonpersonality, is not much greater than with personality alone. This is interpreted to mean that personality and nonpersonality factors are strongly related to each other throughout the population.

4. Of the sociological variables, Education and Age are significantly associated with the E scale in all the classes. Other variables are related to E for a given class only.

References

1. Adorno, T. W., *et al.* The Authoritarian Personality. New York: Harper, 1950.
2. Bass, B. M., *et al.* Personality variables related to leaderless group discussion behavior. *J. Abn. & Soc. Psychol.*, 1953, **48**, 120-128.

3. BETTLEHEIM, B., & JANOWITZ, M. Dynamics of Prejudice. New York: Harper, 1950.
4. BLALOCK, H. M. Social Statistics. New York: McGraw-Hill, 1960.
5. CHRISTIE, R., & GARCIA, J. Subcultural variation in authoritarian personality. *J. Abn. & Soc. Psychol.*, 1951, **46**, 457-469.
6. CHRISTIE, R., & JAHODA, M., *Eds.* Studies in the Scope and Method of the Authoritarian Personality. Glencoe, Ill.: Free Press, 1954.
7. DOLLARD, J., *et al.* Frustration and Aggression. New Haven, Conn.: Yale Univ. Press, 1939.
8. HAMILTON, H. Population pressure and other factors affecting net rural-urban migration. *Soc. Forces,* 1951, **30**, 209-215.
9. HARDING, J., *et al.* Prejudice and Ethnic Relations. *In* G. Lindzey (Ed.), *Handbook of Social Psychology.* Cambridge, Mass.: Addison-Wesley, 1954.
10. HAVIGHURST, R. J., & DAVIS, A. A comparison of the Chicago and Harvard studies in social class differences in child rearing. *Amer. Soc. Rev.,* 1955, **20**, 438-442.
11. JANOWITZ, M., & MARVICK, D. Authoritarianism and political behavior. *Pub. Opin. Quart.,* 1953, **17**, 185-202.
12. MACIVER, R. The Ramparts We Guard. New York: Macmillan, 1950.
13. ROSE, A. M. Studies in the Reduction of Prejudice. Chicago: American Council of Race Relations, 1948.
14. SROLE, L. Social integration and certain collaries: An exploratory study. *Amer. Soc. Rev.,* 1956, **21**, 709-716.
15. TUMIN, M. An Inventory and Appraisal of Research on Anti-Semitism. New York: Freedom Books, 1961.
16. WALKER, H., & LEV, J. Statistical Analysis. New York: Holt, 1953.
17. WELLER, L. The nature of prejudice: A theoretical evaluation and an empirical appraisal. Unpublished Doctoral dissertation, University of Minnesota, 1960.

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EFFECT OF TIMED *VS.* NONTIMED DISCUSSION UPON MEASURES OF INFLUENCE AND CHANGE IN SMALL GROUPS* [1, 2]

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A. INTRODUCTION

In his theory of leadership and interpersonal behavior Bass (1) has emphasized the importance of the interaction potential as a determiner of the group's behavior. He defined interaction potential as the probability of a given pair of group members interacting. Group members tend to change as a function of behavior that is effective or rewarding and, since such change is most likely to result from group interaction, it follows that the amount of interaction between different group members influences the group's effectiveness and other group behaviors.

Bass (1) has listed a number of factors, such as group size, homogeneity, proximity, intimacy, connectivity, and maturity, which he believed to be related to interaction potential. Bass notes in his theory that another factor which will influence the interaction potential is merely the amount of time the group is allowed for the group discussion. Bass (1, p. 370) states that an S-shaped logistic curve describes the number of interactions which will occur in a situation in a given amount of time after the onset of the initial stimulation in a problem situation. The curve accelerates slowly while few group members are active. It reaches maximum acceleration when half the group knows and the other half does not know; then it decelerates as the remaining group members learn the answer to the problem.

Peterman (5) found that the more time a group spent discussing a topic the less satisfied were the conferees with the group decision. On the other hand, total conference time was positively related to a friendly group attitude.

Pepinsky, Pepinsky, and Pavlik (4) found that whether the task is simple or complex, an increase in time pressure up to a moderate level can produce

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[2] This paper was read at the Southeastern Psychological Association meeting, Gatlinburg, Tennessee, 1961.

an acceleration in output, but an increase from low to high pressure is apt to have an adverse effect.

The present study was designed to measure the effect of time pressure on measures of influence, coalescence, and change.

B. Method

The *S*s consisted of 100 male students enrolled in the introductory psychology course. The *S*s were randomly assigned to 20 groups with five *S*s in each group. The 20 groups were then randomly divided into two experimental treatments. In one treatment condition the *S*s were given time pressure. The *S*s were told that they had three minutes in which to reach a group decision and to report their decision to the *E*. The *S*s were given two reminders during the three-minute period to increase their awareness of time. In the second experimental condition the *S*s were not given a time limit. They were told that they had as long as they needed to reach a group decision.

The task consisted of four case-history problems.[3] For each problem the *S*s were required to rank order five solutions according to worth. The group members initially rank ordered the solutions privately. These rankings were collected by the *E*, and the group was allowed time to reach a group decision which was reported verbally to him. It was this discussion time which constituted the independent variable in the present study. After the group decision was reported, the individual group members again privately rank ordered the solutions.

Thus, for each group, we had four measures for each problem: an initial private ranking (X), a group ranking which is a public decision (G), a final private ranking (Y), and a correct ranking (R) based on the judgment of five clinical psychologists at Louisiana State University.

C. Results

The measurements of coalescence, stability, and change were based on the rank-difference intercorrelations of the rank orders of X, G, Y, and R.

The following correlations were obtained for each group for each problem:

$\overline{XX}$ = average initial agreement among all members of a group
$\overline{YY}$ = average final private agreement among all the members of a group

[3] Cases A, B, C, and D described by Bass (1).

$\overline{XY}$ = average stability of the members of a group
$\overline{GX}$ = average agreement of the group decision with the members' initial decision
$\overline{GY}$ = average acceptance of the group decision by the members of a group
$\overline{GY}-\overline{XX}$ = public coalescence of the group
$\overline{YY}-\overline{XX}$ = private coalescence of the group

These average values were the basic units of analysis. Each of the measures of coalescence, stability, and change was analyzed by a Lindquist (3) Type I analysis of variance. The results of these seven analyses are reported in Table 1.

TABLE 1
SIGNIFICANT *F*s OBTAINED IN ANALYZING THE VARIANCE OF STABILITY, AGREEMENT, AND COALESCENCE AS A FUNCTION OF TIME PRESSURE

	df	$\overline{XX}$	$\overline{YY}$	$\overline{XY}$	$\overline{GX}$	$\overline{GY}$	$\overline{GY}-\overline{XX}$	$\overline{YY}-\overline{XX}$
Between	39							
Time *vs.* Nontime	1	10.10**		11.10**			13.44**	
Error B	38							
Within	40							
Between Problems	3							
Time × Problem	3							
Error (W)	34							
Total	79							

** $p < .01$.

Three of the measures—initial private agreement, stability, and public coalescence—showed significant differences between the timed and nontimed treatment conditions. The timed pressure condition led to significantly higher initial agreement (mean nontimed = .21, mean timed = .31). The timed group members showed the greatest stability (mean nontimed = .60, mean timed = .71). However, public coalescence was greater in the nontimed groups (mean nontimed = .41, mean timed = .37). The same trend was true for private coalescence, but the difference was not statistically significant (mean nontimed = .37, mean timed = .26).

Two measures, private coalescence and average acceptance of the group decision by the members of the group, just failed to reach significance ($p <$ .10). Both of these measures were greater for the nontimed groups.

D. Discussion

One of the most difficult aspects of the results to explain, unless we assume it is an artifact, is the difference between the treatment groups with respect to initial agreement ($\overline{XX}$). These results would suggest that the instructions indicating a time limit somehow enhanced the initial agreement among members. Accounting for this increased initial agreement is not easy unless one assumes that time pressure functions to alert or sharpen perception to existing cues—to increase the seriousness with which the *S* performs the task or functions in some similar motivating sense. Such reasoning also requires the additional assumption that *S*s have the ability to agree and this ability varies with factors, such as time pressure. Before any conclusions can be drawn concerning this difference in initial agreement, we need additional research.

Time-pressured group members are less inclined to change their rankings after the group discussion. This is shown by greater stability in the timed group, and also by the timed-group members being less willing to accept the group decision. Reduced discussion time reduces the interaction potential which may lead to resentment and thus rejection of the group decision. The personal reaction seems to be: "If you won't listen to my opinion, or if I don't get a chance to express it because of lack of time, I will not accept your opinion."

The effect of a time limit appears to be due to perceived pressure rather than actual pressure brought on by an impossible time limit. In the present study the nontimed groups did not use the three minutes of discussion time on any but the first problem. The timed group, however, would have used over three minutes on all problems if the *E* had not been insistent on their reporting the group decision. The same type of effect can be seen in the Pepinsky, Pepinsky, and Pavlik (4) study. In their study the total amount of time allowed for the task was the same for all three levels of time pressure. Time pressure was created by notifying the *S*s on different schedules how much time had elapsed. In addition to being annoying, these cues interacted with task difficulty to provide a curvilinear relationship. Likewise in the present study, it was not an actual time difference but a perception of pressure.

These data also indicate greater coalescence with the nontimed groups. Since all the group members in the nontimed condition have an opportunity, though they may not use it, to express their opinion during the group discussion, we would expect higher agreement between the members' final private ranking and the group decision. We would expect the group members to be willing to change as a function of interaction.

E. Summary

When we take into account the significant differences in these data and note the strong trends indicated, it appears that time limits of the type used in this experiment impose a psychological pressure which creates greater initial sensitivity and agreement. This tendency seems to be soon offset by a distinct reduction in satisfaction with the group decision which inhibits coalescence.

References

1. Bass, B. M. Leadership, Psychology, and Organizational Behavior. New York: Harper, 1960.
2. ———. An evaluation of the use of objective social data for training problem-solving discussants. *Tech. Rep.* 22, Contract N7 ONR 35609, Baton Rouge, 1960.
3. Lindquist, E. F. Design and Analysis of Experiments in Psychology and Education. New York: Houghton Mifflin, 1953.
4. Pepinsky, P. N., Pepinsky, H. B., & Pavlik, W. B. The effects of task complexity and time pressure upon team productivity. *J. Appl. Psychol.*, 1960, **44**, 34-38.
5. Peterman, J. N. Satisfaction with conference decision. Unpublished Doctoral dissertation, Univ. Michigan, Ann Arbor, 1951.

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RELIGION, GUILT, AND ETHICAL STANDARDS*

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A. INTRODUCTION

The psychology of religion and the study of values have been legitimate topics of exploration in personality research for many years.[1] The scope of psychological characteristics which have been linked to religious affiliation and belief is considerable, ranging from those of primary interest for the study of social behavior to some whose interest is mainly clinical. The former are illustrated by studies which relate such things as economic attitudes (3), political conservatism-liberalism (4), or authoritarian ideology (2) with religion. More clinically oriented phenomena which have been related to religion include defensive fantasy responses (5) and personal adjustment (8).

The phenomenon of guilt has long been conventionally understood by psychologists as a significant experience in the development of personality and a sometimes critical variable in clinical psychopathology. Religionists have also been concerned with guilt, particularly as the subjective experience which people undergo in response to their commission of sins. Despite this mutual interest, there have been little formal study of guilt and no empirical researches relating guilt to religion.

Mowrer, however, has recently developed a theory of psychopathology which revolves around the concept of guilt and stands in particular opposition to the by now more traditional Freudian theory of the etiology of neurosis. In discussing what he calls "real guilt," Mowrer is inevitably led to a concern with the relationship between religion and mental health (7).

Since different religions make conflicting evaluations of the same behaviors, it is reasonable to suppose that the sources of guilt and the standards of conduct to which people respond will vary according to religious affiliation. It is also possible, however, that the effects of religious indoctrination are sufficiently attenuated among modern Americans so that creeds and doctrines

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[1] The authors are indebted to Richard Gorsuch, Department of Psychology, University of Illinois, for the use of his manuscript (1961) "Empirical Studies of Personality and Religion: A Review."

will not contribute much to people's feelings about and evaluations of moral conduct.

This paper reports the results of initial research in a program of studies which attempts to identify significant behavioral variables related to religious and secular value systems, including the experience of guilt feelings, effectiveness of general adjustment, and the development of clinical psychopathology.

Three general hypotheses were examined in this study:

1. *S*s raised in different religions will identify different creedal evaluations of the same behaviors; i.e., people see their religion's evaluations of common behaviors in ways which permit one religious denomination to be distinguished from another.

2. Experiences of subjective guilt will differ among *S*s according to the religious denominations with which *S*s are affiliated.

3. General standards of conduct will differ among religious groups, but in lesser degree than will either evaluations of doctrine or anticipations of personal guilt.

B. Method

1. *Subjects*

Thirty-six boys and 27 girls in an advanced undergraduate course in the Psychology of Personality were used as *S*s. Of these, 11 boys were Catholic, seven Protestant, and 16 Jewish, while Catholic, Protestant, and Jewish girls numbered four, 19, and six respectively. *S*s ranged in age from 18 to 25, with a mean age of 20. The mean ages of boys and girls among all denominations did not differ significantly from each other (6, pp. 47 ff.). The imbalance apparent in the proportions of boys and girls of each denomination nevertheless requires that interpretations of results based on this sample be somewhat limited; for some items, responses may be determined more by sex than by religious affiliation.

2. *Instrument*

Three questionnaires were constructed for group administration. The same 33 items constituted the essence of each questionnaire. The main differences between questionnaires resided in the instructions for rating items and the anchor labels attached to the rating scales.

Two major criteria were used in the selection of all items: (*a*) an item must represent behavior which has a high probability of occurrence in the lives of American college students, and (*b*) the behavior involved must have a high probability of moralistic evaluation from the viewpoint of some re-

ligious establishment. Within the latter category, some preference was given to items which seemed to have a reasonable chance of receiving different evaluations from the viewpoints of respondents raised within different religious traditions. Items concerning political party preferences might suit the first criterion but not the second, and an item like "worshipping idols" would satisfy the second criterion but not the first. Within the category of acceptable items, such ones as "turning the other cheek—i.e., not fighting back" would receive clear preference over such items as "feeding widows and orphans," in that the former is more susceptible to doctrinal variation between religious groups (e.g., Jews *vs.* Christians) than is the latter.

The 33 items used in the questionnaires were:

1. Admitting your faults to yourself.
2. Flirting.
3. Giving money to charity for the purpose of lowering one's income tax.
4. Working for high grades in school.
5. Showing anger in an argument.
6. Disagreeing with one's parents.
7. Getting drunk.
8. Feeling respect for your priest, minister, or rabbi.
9. Praying.
10. Falling in love with a married person.
11. Masturbating—i.e., sexual stimulation of one's own body.
12. Stealing.
13. Lying.
14. Competing with others for personal gain.
15. Feeling hostility towards a friend.
16. Disobeying one's parents.
17. Smoking.
18. Doubt about the existence of God.
19. Premarital intercourse.
20. Premarital intercourse with someone you love.
21. Cheating on exams.
22. Reporting to a teacher that someone else cheated on an exam.
23. Giving charity in order to gain approval of other people.
24. "Turning the other cheek"—i.e., not fighting back.
25. Aggressively (but honestly) striving for personal success.
26. Gambling.
27. Attacking an evil person.
28. Questioning the validity of one's own religion.
29. Social drinking.
30. Petting.
31. Contraception or birth control.
32. Thinking sexy thoughts—having sex fantasies or daydreams.
33. Swearing—i.e., using bad language.

Questionnaire I (QI) asked for identifying data which included parents' occupation and education, the religious denomination in which respondents were ostensibly raised, and some statements about religious education, devotion, and affiliation. Instructions then specified: "In your opinion, how does *your religion* view the following situations . . . . answer on the basis of how *your religion evaluates* these situations, and not how you personally feel about them." Each item was accompanied by a rating scale from one to seven, with one labelled "very sinful or wicked," two "somewhat sinful," three "undesirable," four "neither sinful nor righteous," five "desirable," six "commendable," and seven "very righteous or virtuous."

Questionnaire II (Q2) requested a minimum of identifying data, followed by these instructions:

> Guilt is a special kind of human emotion. It is the bad feeling people have when they think they have done something wrong.
>
> The opposite of guilt is the good feeling people have when they think they have done the right thing.
>
> Every human being feels guilty about some things, but the situations which arouse guilt differ from person to person.
>
> The following situations produce different feelings in people. These feelings may range from extreme guilt to considerable satisfaction with oneself.
>
> Please indicate how you might feel in each situation. Not how you think someone *ought* to feel, but *how you would actually feel. Do not report whether you have actually had any of these experiences,* but only how you would feel if you did.

The same items contained in Questionnaire I then appeared in a different order along with a seven-point rating scale whose anchor points, from one to seven, were: very guilty, somewhat guilty, mildly guilty, neither guilty nor pleased, mildly pleased with myself, somewhat pleased with myself, and very pleased with myself.

Questionnaire III (Q3) contained the following instructions:

> In previous questionnaires, we have asked how your religion views certain subjects and what your personal feelings of guilt or pleasure might be about them.
>
> This time, we would like you to consider the same subject from the viewpoint of *your own personal standards.*
>
> In other words, we want you to say how you think *people in general* should behave with respect to these things.

The items were then presented in the same order as on the first questionnaire. Anchor points on the rating scale from one to seven were: should

always avoid, should usually avoid, should try to avoid, doesn't matter, should do sometimes, should usually do, should always do.

3. *Procedures*

Each of the questionnaires was administered three weeks apart to the entire class, and less than 20 minutes was required for the completion of each. When the first questionnaire was administered, students were invited to use code symbols or numbers to identify their own forms if they did not wish to reveal their names. Only two *S*s took advantage of this opportunity, and their responses were not obviously exceptional.

Upon completion of the second questionnaire, respondents were asked to supply anonymous answers to four questions intended to assess some of the biases of the research procedures. All respondents answered affirmatively the question: "Did you take the questions seriously; i.e., did they reflect situations which seemed meaningful or potentially meaningful in your life?"

Only eight respondents (13 per cent) answered affirmatively the question: "Did you try to respond to the items in a fashion consistent with the first questionnaire?"

The question "To what extent did your answers reflect personal experiences which you have actually had?" was answered on a seven-point scale ranging from "not at all" (rated zero) to "completely" (rated seven). Of the entire sample, 78 per cent responded in the upper three categories, including 86 per cent of the boys and 70 per cent of the girls.

Asked, "Would you be willing to have a personal interview on this material?" 85 per cent of the respondents answered affirmatively, including about equal proportions of boys and girls. Affirmative respondents were subsequently asked to sign their names and addresses, etc., to a list from which they would be contacted for interview, and apparently all those who had volunteered anonymously did in fact submit their names.

C. Results

The central question which this study asked was whether or not members of the three major religious groupings of the United States would respond differently to the issues raised in the various questionnaires which we employed. Effective answers to this question, however, must account for some of the background characteristics of particular denominations which may have special influence on responses to the items investigated. To what extent, for example, does affiliation with one or another church imply intensity of religious education, expressed degree of devoutness, attendance at religious

services, and affiliation with specific religious organizations? Among our respondents, the following characteristics were obtained:

1. *Religious Background*

Catholics tended to have had the most intensive religious education and Protestants the least intensive; the differences between Protestants and Jews are not significant, but Catholics have significantly ($p < .01$) more religious education than either of these two groups. Some type of formal education in religion characterizes almost all members of all groups and, though parochial school attendance or weekday afternoon religious classes are not uncommon, Sunday School education is modal to all churches.

Members of all three groups rate themselves almost identically with respect to their degree of devoutness, midway between "fairly devout" and "mildly interested," with Catholics seeing themselves as very slightly but not significantly more devout than the others.

Ratings of attendance at religious services similarly show little variation. Catholics and Protestants rate their attendance identically between "frequently" and "occasionally," leaning more toward the latter; Jews' average rating is "occasionally," not significantly different from the others.

Finally, with respect to membership in campus religious foundations, 50 per cent of the Catholics report that they are members of Newman Foundation, 40 per cent of the Jews are members of Hillel Foundation, and 30 per cent of the Protestants are members of the many Protestant foundations. The low per cent of Protestant affiliates relative to the others may be accounted for by the fact that there are many Protestant denominations which do not maintain campus foundations, whereas all Catholics and Jews are served by the single foundations maintained by their respective faiths.

2. *Overall Score Comparisons*

Performance of the different groups on the three questionnaires was evaluated by Analyses of Variance, Type I (6, pp. 267 ff.). Two kinds of analyses were performed: The first, and more general, analysis used the average of the item scores for each questionnaire of each *S* as its raw datum. By this method, each *S* obtained a single score on each questionnaire. Table 1 gives the mean scores for sex and religious denomination obtained on each questionnaire. Main effects tests indicated significant differences between males and females ($p < .01$), between Catholics, Protestants, and Jews ($p < .05$), and between the three questionnaires ($p < .001$). A significant interaction occurred between sex and questionnaire ($p < .01$), but not between religion and questionnaire.

TABLE 1
OVERALL MEAN SCORES BY SEX AND DENOMINATION

	Questionnaire 1 Religious creed	2 Guilt feelings	3 Ethical standard	Mean total
Sex				
Male ($N = 34$)	3.3	3.8	3.8	3.6
Female ($N = 29$)	3.3	3.4	3.6	3.4
Denomination				
Catholic ($N = 15$)	3.0	3.7	3.6	3.4
Protestant ($N = 26$)	3.3	3.5	3.6	3.4
Jew ($N = 22$)	3.5	3.8	3.8	3.7
Questionnaire mean	3.3	3.6	3.7	

a. Sex. The main effects tests show that the mean scores of males across all questionnaires are significantly higher than those of females, but the interaction between sex and questionnaire demonstrates that the performances of the two sexes are more unlike each other on some questionnaires than on others. Means of the two groups are identical on Q1, indicating that they agree on their respective interpretations of religious doctrine with respect to the various behavior items, but simple effects tests show that males obtain significantly higher scores than females on both Q2, estimates of personal guilt, and Q3, standards of ethical conduct ($p < .01$). Higher scores on Q2 indicate fewer guilt feelings, while higher scores on Q3 indicate more permissive standards of conduct. By the same token, higher scores on Q1 indicate an estimate of more favorable doctrinal evaluation of items—i.e., evaluation as less sinful or more righteous. Both sexes obtain higher net ratings on Q2 and Q3 than on Q1; for the females, only Q3 is significantly higher ($p < .01$), whereas for the males, both Q2 and Q3 are significantly higher than Q1 ($p < .01$). In other words, both boys and girls express personal feelings or general standards of conduct or both which are somewhat more permissive or liberal than those which they feel characterize their churches.

b. Denomination. The mean score of Jews across all questionnaires taken together is significantly higher than those of Protestants or Catholics ($p < .05$), but simple effects tests show these differences to be individually significant only on Q1 in comparison with Catholics ($p < .05$) and on Q2 with

Protestants ($p < .05$). Protestants also score significantly higher than Catholics on Q1 ($p < .05$).

c. Questionnaire. That Q1 elicits more differences between denominations than either of the other questionnaires is even more interesting in view of the indications from simple effects tests that performance from one questionnaire to another follows the same pattern for all three denominations. For Catholics, Protestants, and Jews alike, Q2 and Q3 each differ significantly from Q1 ($p < .01$ for Catholics and Jews, $p < .05$ for Protestants) but hardly differ at all from each other. Since almost precisely the same relationship between questionnaires is obtained for the analysis by sexes, it seems clear that Q1 alone differs critically from the other questionnaires, which do not differ from each other in any instance.

3. *Individual Item Comparisons*

The foregoing analysis is contaminated, to some unknown extent, by averaging across individual items. More refined and less contaminated information was obtained by performing individual analyses of variance between denominations and questionnaires for each of the 33 items. Though the spread of scores for individual items is seen to vary considerably among the three questionnaires and denominations, as indicated in Tables 2 through 6, it is nevertheless clear that the overall patterns of relationships indicated in the previous analysis are both supported and tempered by the detailed information available in the present one.

Main effects tests for each item indicate that denominations differ significantly from each other ($p < .05$) on 12 items averaged across all three questionnaires (Table 2), and that questionnaires differ significantly from

TABLE 2
MEAN ITEM SCORES OF EACH RELIGIOUS GROUP ON ALL QUESTIONNAIRES COMBINED

Item	Catholics	Protestants	Jews	p
3	3.9	2.9	3.6	.005
11	2.2	2.9	3.4	.001
12	1.7	1.3	1.3	.05
17	4.0	3.4	3.9	.001
19	2.1	1.8	2.6	.025
24	4.2	5.1	3.9	.001
26	3.8	3.0	3.4	.01
27	4.5	3.8	4.8	.001
29	4.3	3.6	4.2	.005
30	2.8	3.3	3.8	.005
31	2.3	4.7	4.8	.001
32	3.1	3.8	4.1	.001

TABLE 3
MEAN ITEM SCORES OF ALL GROUPS COMBINED ON EACH QUESTIONNAIRE

Item	Q1	Q2	Q3	p
1	6.0	4.7	6.3	.001
2	3.8	4.6	4.3	.001
3	3.1	3.6	3.5	.05
4	5.7	6.2	6.4	.001
7	2.2	3.1	2.6	.001
8	6.0	5.0	6.0	.001
9	6.6	5.1	5.4	.001
10	2.2	2.5	2.0	.01
13	1.6	2.1	2.0	.005
14	4.0	5.2	5.2	.001
16	2.0	2.4	2.8	.001
18	2.0	3.3	3.9	.001
19	1.7	2.3	2.4	.01
20	1.9	2.8	2.5	.01
22	3.8	2.3	2.5	.001
24	5.2	3.9	4.3	.001
25	5.3	6.0	6.1	.001
26	2.8	3.8	3.4	.001
27	3.9	4.8	4.3	.005
28	3.5	4.5	5.0	.001
29	3.6	4.1	4.3	.001
30	2.8	3.7	3.7	.001
31	3.5	4.3	4.7	.001
32	3.3	4.0	4.0	.001
33	2.4	3.3	3.0	.001

each other on 25 items averaged across all three denominations (Table 3). In general, the differences between denominations and questionnaires are independent of each other. Only two items (#11 and #32) revealed significant interactions ($p < .05$), which would be expected on the basis of chance alone. As in the earlier overall analysis, differences between questionnaires seem to have more general importance than differences between religious denominations.

The hypotheses of the study, however, were primarily concerned with the differences between religious denominations which might be revealed by these questionnaires, and simple effects tests were therefore performed between denominations alone for each item of each questionnaire. As indicated in Tables 4, 5, and 6, the groups differed significantly in identifying the characteristic judgments of their religious creeds on 17 items, the expression of anticipated personal guilt on six items, and the general standards which should apply to human conduct on seven items. As before, most of the differences between religious groups are found on the first questionnaire, where they differ significantly from each other on more than twice as many items as on either of the other questionnaires.

TABLE 4
MEAN ITEM EVALUATIONS OF RELIGIOUS CREEDS (QUESTIONNAIRE I)

Item	Catholics	Protestants	Jews	*p*
1	5.9	5.9	6.0	—
2	3.3	3.8	4.0	.05
3	3.7	2.8	3.1	.05
4	5.7	5.6	5.9	—
5	2.5	3.0	3.2	.05
6	2.3	3.1	2.4	.10
7	1.6	2.1	2.7	.001
8	6.1	5.8	6.1	—
9	6.9	6.7	6.4	.10
10	1.8	2.2	2.4	—
11	1.5	3.0	3.5	.001
12	1.4	1.2	1.3	—
13	1.6	1.6	1.7	—
14	3.8	3.9	4.2	—
15	2.3	2.5	2.8	.10
16	1.9	2.2	1.9	—
17	3.7	3.3	4.0	.001
18	1.6	2.1	2.1	—
19	1.1	1.7	2.3	.001
20	1.1	2.0	2.4	.001
21	1.8	2.0	1.9	—
22	4.5	3.7	3.5	.01
23	3.1	2.8	3.2	—
24	5.5	5.8	4.4	.001
25	5.2	5.4	5.2	—
26	3.2	2.4	3.1	.01
27	4.0	3.2	4.5	.01
28	2.4	3.8	3.9	.001
29	3.9	3.0	4.0	.001
30	2.0	2.9	3.1	.001
31	1.0	4.4	4.2	.001
32	2.3	3.4	3.8	.001
33	2.5	2.3	2.5	—

Despite the increased complexity they lend the results, it was felt that the two preceding analyses were both necessary, the one using a single total score per person per questionnaire, the second analyzing each item separately. The former score is spurious in the sense that it implies incorrectly that each item of the test has equivalent value and that the units for all questions are the same. The single score can also be misleading by implying that the sum of items can be meaningfully averaged. Although each rating scale uses four as a midpoint, no attempt was made in this study to balance the number of items that might readily be rated above that point, such as "respecting clergymen," with an equal number that might be rated below it, such as "stealing." This analysis nevertheless has real value, chiefly in that it permits a unitary look at the whole body of data. Since each questionnaire asks for items to be rated on a single dimension of meaning, and since the numerical

TABLE 5
MEAN ITEM EXPRESSIONS OF GUILT FEELINGS (QUESTIONNAIRE II)

Item	Catholics	Protestants	Jews	*p*
1	4.7	4.6	4.9	—
2	4.5	4.5	4.9	—
3	4.0	3.2	3.9	.10
4	5.9	6.2	6.5	—
5	3.4	3.1	3.0	—
6	3.8	3.6	3.6	—
7	3.2	2.7	3.4	.10
8	4.5	4.9	5.4	.05
9	4.9	5.2	5.2	—
10	3.0	2.4	2.4	—
11	2.8	2.8	3.3	—
12	2.1	1.3	1.4	.10
13	2.3	2.0	2.0	—
14	5.2	5.3	4.9	—
15	2.9	2.8	2.8	—
16	3.0	2.3	2.2	.05
17	4.4	3.5	3.9	.01
18	3.5	3.2	3.5	—
19	2.9	1.7	2.7	.10
20	3.1	2.7	2.8	—
21	2.1	1.7	2.0	—
22	2.5	2.2	2.4	—
23	3.2	2.7	3.2	—
24	3.4	4.5	3.5	.025
25	5.9	6.0	6.0	—
26	4.1	3.7	3.7	—
27	5.1	4.2	5.3	.025
28	4.3	4.5	4.6	—
29	4.3	3.8	4.3	—
30	3.1	3.5	4.3	—
31	2.9	4.6	5.0	.005
32	3.7	3.9	4.1	—
33	3.5	3.0	3.5	.10

ratings, from low to high, always indicate an ordering from a negative, conservative, or avoidant state to a positive, permissive, or adient one, this analysis permits some conclusions about the overall orientation of males and females and of denominations towards the three questionnaires. The item-by-item analysis, on the other hand, though free of some of the above flaws, makes it very difficult to gain a clear overall view of the differences between religious groups or of questionnaires. Since both analyses produced substantially similar results, it is clear that the differences between groups obtained on the first analysis are not artifacts of the scoring procedures.

D. DISCUSSION

Both of the analyses used in this study yield results which support the first hypothesis of the study; i.e., *S*s raised in different religions identify different

TABLE 6
MEAN ITEM EVALUATIONS OF ETHICAL STANDARDS (QUESTIONNAIRE III)

Item	Catholics	Protestants	Jews	*p*
1	6.3	6.4	6.3	—
2	4.3	4.2	4.5	—
3	4.1	2.8	3.8	.01
4	6.2	6.4	6.5	—
5	2.7	2.8	3.0	—
6	3.5	3.6	3.7	—
7	2.7	2.5	2.6	—
8	6.0	6.0	6.0	—
9	5.5	5.8	4.8	.02
10	2.2	1.8	2.0	—
11	2.4	2.7	3.4	.10
12	1.6	1.4	1.2	—
13	1.9	2.1	2.0	—
14	4.9	5.0	5.6	.01
15	3.0	3.0	2.6	—
16	3.0	2.7	2.7	—
17	3.8	3.5	3.9	—
18	3.5	3.7	4.5	.05
19	2.4	2.0	2.9	—
20	2.7	2.2	2.8	—
21	1.7	1.5	1.8	—
22	2.3	2.5	2.5	—
23	2.9	2.7	3.1	—
24	3.8	5.0	3.7	.001
25	6.0	6.2	6.0	—
26	4.0	3.0	3.4	.01
27	4.5	4.1	4.5	—
28	4.9	5.0	5.0	—
29	4.8	4.0	4.3	.10
30	3.1	3.6	4.1	.10
31	2.9	5.2	5.4	.001
32	3.3	4.1	4.3	.005
33	3.1	2.7	3.2	—

creedal evaluations of the same behaviors. The data generally indicate that Jews obtain higher ratings than do Protestants, who in turn rate items higher than do Catholics.

Hypothesis two, on the other hand, receives only very weak support. Experiences of subjective guilt do differ among *S*s according to the religious denominations with which they are affiliated in a few instances, but observation of the significant sex differences on this questionnaire, taken together with the relatively disproportionate large number of girls in our sample of Protestants, permits the interpretation that most of the few differences between denominations in expressions of guilt are really expressions of differences in guilt feelings between boys and girls. In any event, the majority of analyses of individual items do not reveal such differences in guilt feelings.

A similar conclusion is in order for the third hypothesis. In the first analy-

sis, denominations do not differ significantly from each other on Q3 and analyses of individual items reveal only a few such differences. Again, there are small but significant differences between sexes on this item, and it is quite possible that the few denominational differences shown by simple effects tests are in reality expressions of these sex differences.

When the complex results of this study are taken as a whole, one very consistent conclusion seems in order from all the different modes and contents of analysis: Male and female college students alike recognize and respond to differences between the moral stances of their respective religions, but these differences do not dictate either their feelings about themselves or the standards of conduct that they think should guide people in general.

The differences which *S*s perceive between their various denominations are not very large ones, however statistically significant, but their trustworthiness is reinforced by two things: (*a*) The religion questionnaire was given first in the study; so there was no order effect contaminating responses to it. (*b*) Males and females obtained identical overall means on Q1; so responses by denomination are not contaminated by the influence of sex. Though sex differences and order effects may both be influencing responses to Q2 and Q3, neither is sufficient to account for the very clear trend towards a more favorable response on these than on Q1.

Taken at face value, the foregoing statements imply that Catholics evaluate their religious doctrines as more stringent than do Protestants, who in turn see their religion as less permissive than do Jews. Several other studies have reported the same result (1, 3, 4). But all three groups see their own religious doctrines as somewhat more conservative or restrictive than necessary. Females are somewhat more conservatively inclined than males—i.e., tend to accord more with religious doctrines—but they too identify proper standards of conduct as somewhat more permissive than they think their churches would. These results are particularly consistent with those reported in the extensive study by Allport, Gillespie, and Young (1).

It is important to bear in mind in interpreting these data, however, that the divergence of personal opinion from supposed doctrinal opinion is not very great, and surely does not suggest any very deliberate or radical rebellion from the moral standards of the churches. Quite to the contrary, the data communicate a very definite impression that among all groups the official religion is seen as a kind of conservative anchor for the religious liberalism of the respondents. The difference between doctrine and self, the latter treated both as emotion in terms of guilt and as intellect in terms of standards, is one of degree, not quality, and of only mild difference in degree at

that. The anchoring characteristic of religious doctrines is suggested by the trend among all three denominations for evaluations of guilt and general standards to be significantly higher than religious creeds, no matter how high the latter fall.

Though the present study offers no basis for a general evaluation of Mowrer's guilt theory, its results do seem to justify one aspect of his theorizing: i.e., his rather cavalier indifference to the denominational sources of guilt. However much our respondents see their religions as differing, they seem to see their lives as similar. To the extent that guilt may be contributory to pathology, it is apparently about equally so for all religious groups, at least in terms of their susceptibility to it. By the same token, the ethical aspirations of respondents are very similar despite their denominational differences, again suggesting a cultural homogeneity whose importance may be such in the lives of these students as to make their various subcultural differences more colorful than significant.

The results of this study do indicate, nevertheless, that there are sufficiently stable differences between groups to justify further work in this area. Studies are now in progress using larger samples of college students, balanced by sex and religion, to identify the factors accounting for responses to the various questionnaires and to relate expressed evaluations of religion, guilt, and personal ethics to overt behavior with respect to these same items, test indices of personal adjustment, and behavioral indices of effective performance and psychopathological dysfunctioning.

E. Summary

Estimates of official religious doctrines, personal feelings of guilt, and general ethical standards of conduct were obtained from 63 college students of both sexes and all three major American religions. *S*s rated each of 33 items of conduct on seven-point scales which represented official religious valuations on a continuum from "sinful" to "virtuous" personal feelings from "very guilty" to "very pleased with oneself," and ethical conduct from "should always avoid" to "always do." Analysis of variance indicated differences between sexes and denominations on the various questionnaires. The differences between denominations occur primarily in evaluations of their own doctrines, where Catholics, Protestants, and Jews, in that order, give increasingly liberal portrayals of their faiths. Estimates of guilt feelings and ethical standards do not differ strikingly between denominations, but in all cases respondents seem to see their official creeds as more restrictive than necessary. Sex differences are found mainly in reports of guilt feelings, with

girls more prone to guilt than boys; both sexes make identical evaluations of their religious creeds.

References

1. Allport, G. W., Gillespie, J. M., & Young, J. The religion of the post-war college student. *J. of Psychol.*, 1948, **25**, 3-33.
2. Brown, D. R., & Bystryn, D. College environment, personality, and social ideology of three ethnic groups. *J. Soc. Psychol.*, 1956, **44**, 279-288.
3. Brown, D. G., & Lowe, W. L. Religious beliefs and personality characteristics of college students. *J. Soc. Psychol.*, 1951, **33**, 103-129.
4. Lawson, E. D., & Stagner, R. The Ferguson religionism scale: A study of validation. *J. Soc. Psychol.*, 1954, **39**, 245-256.
5. Lesser, G. S. Religion and the defense responses in children's fantasy. *J. Proj. Tech.*, 1959, **23**, 64-68.
6. Lindquist, E. F. Design and Analysis of Experiments in Psychology and Education. Boston: Houghton Mifflin, 1956.
7. Mowrer, O. H. The Crisis in Psychiatry and Religion. Princeton: Van Nostrand, 1961.
8. O'Reilly, C. T. Religious practices and personal adjustment of older people. *Sociol. & Soc. Res.*, 1958, **42**, 119-126.

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SIMILARITIES AND DIFFERENCES AMONG LEADERS AND FOLLOWERS* [1]

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A. BACKGROUND

In support of their contention that followership should not be considered the antithesis of leadership, Hollander and Webb (8) observed a high correlation between peer nominations of desired leaders and desired followers for an hypothetical small-group situation. In keeping with such a finding, it is theoretically sound to consider a good leader to be a good follower in any of several contexts, whether in regard to the leader's responsiveness to the needs of group members or his responsiveness to the demands of higher levels of authority within an organizational structure. By and large, however, even though the form of leadership may vary (10), there is evidence to support the hypothesis that individuals tend to persist in either predominantly leader or follower types of behavior across groups and situations (2, 3, 4, 5).

In view of the apparent consistency of individual behavior, the implications of the Hollander and Webb study seem not to be that leaders and followers are necessarily the same persons, but rather that leaders and followers have something in common, particularly when they are valued as individuals by group members. In this regard another finding in the Hollander and Webb study was a moderate positive correlation between friendship (popularity) and both leadership and followership nominations. The moderate correlation suggests, of course, that there can be leaders and followers who are either popular or not so popular. Given this assumption, there may be as many personal characteristics common to leaders and followers of equated popularity as there are in common to either leaders or followers *per se*.

The purpose of the present study was to evaluate similarities and differences in personal characteristics among four types of individuals—namely, liked leaders, less-liked leaders, liked followers, and less-liked followers. Based upon

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[1] This study was conducted under Bureau of Medicine and Surgery, Department of The Navy, Research Project No. MR005.12-2004, Subtask 1, Report No. 62-15. Opinions expressed are those of the author and are not to be construed as necessarily reflecting the official view or endorsement of The Navy Department.

the assumption that individuals tend to pursue either a predominantly leader or follower role within groups, one expectation of the present study was that liked and less-liked leaders should have some personal characteristics in common which differentiate them from followers. In contrast, on the basis of the Hollander and Webb study, it was also expected that liked leaders and followers should have certain characteristics in common which differentiate them from less-liked leaders and followers.

B. Method

1. *Subjects*

The *S*s in the present study were 72 men who had wintered-over at Antarctic scientific stations. The men represented four different stations, group size of which ranged from 17 to 19 men. Approximately half the *S*s were military enlisted personnel (median age of 28 years) and the remaining *S*s were civilian scientists and technicians (median age of 26 years). The men at each station worked and lived together in relative isolation from the outside world for 12 continuous months.

2. *Procedure*

Periodically through the year and at the end of the Antarctic year, a designated military and a civilian supervisor at each station independently evaluated each station member on his overall performance and on each of 21 personal characteristics.[2] The evaluations were made on nine-point rating scales. Of the total number of personal characteristics on which ratings were given, the following were subject to consideration in the present study: leadership, likability, adaptability, emotional control, acceptance of authority, self-confidence, job motivation, alertness, industriousness, problem sharing, aggressiveness, frustration tolerance, motivation to be an efficient group member, and satisfaction with the job assignment.[3]

Experimental groups were derived from the leadership and likability ratings. Anchor descriptions on the leadership scale were "marked ability to lead his fellows" and "always follows, never leads," with intermediate descriptions referring to the relative frequency with which the individual led or followed. Both the leader and the follower groups were therefore obtained

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[2] *The Personal Adjustment Rating Booklet,* in which ratings were made, was designed by Benjamin B. Weybrew, Ph.D., U. S. Navy Medical Research Laboratory, New London, Connecticut.

[3] Several characteristics, most of which were emotional symptoms, were omitted from the present study since they were highly correlated with more general inclusive characteristics, such as emotional control.

from the leadership scale. The likability scale was anchored with the descriptions of "extremely well-liked by others" and "tendency to be avoided by others." For each group member an average rating was obtained from each supervisor on leadership-followership and on likability. With use of Fisher's z transformation to obtain an average of the correlations between station supervisors' ratings, average Pearson coefficients of .53 and .66 were obtained as estimates of supervisor agreement on leadership and likability ratings respectively ($SE_{z\,avg} = .13$). By the same method, an average correlation of .43 was obtained across stations between peer nominations of friendship and a combined supervisor rating of likability. Across supervisors, the average correlation between leadership and likability ratings was .06 ($SE_{z\,avg} = .09$).

With use of the combined average of both station supervisors' ratings, the members of each station group were dichotomized as close to the median as possible on both leadership-followership and likability scales. Pooling *S*s across stations, four experimental groups were therefore derived, these being liked leaders (L+), less-liked leaders (L −), liked followers (F+), and less-liked followers (F—). As suggested by the zero-order correlation between leadership and likability, an approximately equal number of *S*s fell within the four experimental groups.

On each of the remaining 13 personal characteristics of interest in the present study, a combined average of both station supervisors' ratings was obtained for each station member. Employing Student's t test of mean differences, the four experimental groups were then compared on each of the different characteristics. Major comparisons made were between liked and less-liked leaders, liked and less-liked followers, liked leaders and liked followers, and less-liked leaders and less-liked followers.

C. Results

Results of the comparison of four experimental groups on personal characteristics are shown in Table 1. In terms of average ratings on likability and leadership, the four groups were significantly different from one another in the expected manner—i.e., leaders from followers and liked individuals from less-liked individuals.

Both groups of leaders, liked and less-liked, were more self-confident, alert, job motivated, and aggressive than the follower groups of comparable likability. On none of these characteristics were the two leader groups significantly different from each other.

Liked leaders and liked followers were both more satisfied with the job

TABLE 1
COMPARISON OF LEADER AND FOLLOWER GROUPS ON SUPERVISOR TRAIT RATINGS[a]

	Group											
	(L+) $N = 15$		(L−) $N = 20$		(F+) $N = 20$		(F−) $N = 17$		Student t-test values[b]			
Traits	Mean	*SD*	Mean	*SD*	Mean	*SD*	Mean	*SD*	(L+/L−)	(F+/F−)	(L+/F+)	(L−/F−)
Leadership (crit)	6.44	1.17	5.98	0.76	3.94	0.82	3.87	0.90	1.278	0.220	6.882**	7.421**
Likability (crit)	7.31	0.51	4.67	1.67	6.94	0.96	4.78	1.26	6.463**	5.620**	1.417	0.225
Self-confidence	6.19	1.40	5.80	0.88	5.07	0.85	4.73	1.28	0.950	0.935	2.732*	2.893**
Alertness	6.70	0.97	6.31	0.84	5.56	1.18	5.28	0.91	1.246	0.819	3.109**	3.555**
Job motivation	6.71	0.97	5.90	2.34	5.70	1.41	4.66	1.19	1.407	2.428*	2.510*	2.063*
Adaptability	6.83	1.11	5.72	1.70	5.65	1.30	4.91	1.15	2.334*	1.834	2.886**	1.705
Industrious	7.57	1.00	5.76	1.42	5.79	1.60	4.78	1.32	4.435**	2.108*	4.044**	2.177*
Aggressiveness	5.17	1.04	5.92	1.44	4.14	1.09	4.95	1.18	1.638	2.152*	2.827**	2.245*
Problem sharing	4.16	1.16	4.26	1.30	4.25	1.12	4.57	1.46	0.251	0.739	0.230	0.667
Frustrat. toler.	5.29	1.11	5.50	1.92	4.70	1.46	5.64	1.46	0.422	1.945	1.350	0.234
Maturity	5.86	1.31	4.42	1.57	4.74	1.23	3.86	1.39	2.940**	2.013	2.571*	1.150
Job satisfaction	5.66	1.35	4.50	1.90	5.20	1.57	3.74	1.61	2.103*	2.755**	0.920	1.333
Group motivation	6.69	1.12	5.11	1.26	5.83	1.14	4.89	1.41	3.926**	2.196*	2.243*	0.487
Emotional control	7.46	1.08	5.48	1.87	6.79	1.15	5.50	1.41	3.931**	2.918**	1.762	0.047
Accept authority	6.73	1.06	4.89	1.82	6.74	1.12	5.02	2.21	3.760**	2.900**	0.018	0.198

[a] For all traits except Frustration Tolerance, higher ratings imply more of the particular trait.

[b] Student t-test values derived prior to rounding off for tabular presentation; direction of differences is ignored.

* Significant at the .05 level.

** Significant at the .01 level.

assignment, emotionally controlled, and accepting of authority than the less-liked leaders and followers, but not significantly different from one another on these characteristics. The liked leaders and followers were also more motivated to be efficient group members, although liked leaders displayed more of this characteristic than liked followers. On none of these characteristics were the less-liked leaders significantly different from the less-liked followers.

Each of the four experimental groups was in some way different from the others, leaders being somewhat different from followers, and liked individuals being somewhat different from less-liked individuals. In an effort to assess the overall similarity of each group with the others, the four experimental groups were compared two at a time on their attitudinal and behavioral profiles derived for each group by ranking the 13 personal-characteristic average ratings from most to least characteristic. Using the Spearman rank-order correlation, the only groups found to be significantly similar were the liked leaders and the liked followers (rho = .87, $df = 12$); all other values of rho ranged from .00 to .41. Significance was tested by the t approximation suggested by McNemar (9).

D. Discussion

Consistent with the summary presented by Gibb (1954) on behavioral correlates of leadership, leaders in the present study were more self-confident, alert, and aggressive than nonleaders (followers). But in terms of overall similarity on attitudinal and behavioral profiles, liked leaders and liked followers were more similar than any other groups. These two groups were particularly similar to one another, and different from the less-liked leaders and followers, on satisfaction with assignment, emotional control, acceptance of authority, and motivation to be a part of the group. The fact that liked leaders were even more motivated towards the group than liked followers may be accounted for in part by the hypothesis that a critical expectation held of the leader, if he is to maintain esteem, is that he display strong motivation to belong to the group (7).

Individuals judged by their supervisors as leaders in the present study appear to have demonstrated what Bass (1) would refer to as attempted leadership behavior. That is, they were the individuals most likely to initiate task-oriented behavior within the group. But the individuals who attempted leadership and were more effective in so doing, as judged in this study by their popularity, appear to be characterized by an attitude or orientation of teamwork and respect for other sources of authority whether it be a station

supervisor, a set of group norms or rules, or perhaps even the opinion of a follower who is particularly knowledgeable in regard to the task at hand. It is in this sense of teamwork and respect that the liked follower is similar to the liked leader in a small group, the major difference between the two types of individuals being that the follower tends to be less assertive.

The results of this study and of that by Hollander and Webb seem particularly relevant for future studies of leadership characteristics. If one operationally defines leadership in the form of attempted leadership, such as by assertiveness, it is likely that both the potentially effective and less-effective leader would be pooled together under the common label of "leader"; it would then seem likely that the only characteristics on which leaders would be found different from nonleaders would be those characteristics related to assertiveness. On the other hand, if leaders are operationally defined as those group members nominated by peers as "good leaders" or "persons you would like to follow," the nonleader group against which the leader group would be compared would be composed of individuals defined in the present study as less-liked leaders, liked followers, and less-liked followers. Again, since liked leaders have characteristics in common with both less-liked leaders and liked followers, the presence of the latter two groups in the nonleader category would make it unlikely that many attitudinal or behavioral characteristics would emerge as differentiating leaders from nonleaders.

Thus, the problem of leadership-followership is probably best approached with an experimental design which accounts for the possibility of there being liked and less-liked leaders as well as liked and less-liked followers. If we are interested primarily in the effective leader and the effective follower, such individuals must in some way be experimentally differentiated from their less-effective counterparts.

E. Summary

On the basis of the Hollander and Webb study (8) which clearly demonstrated a positive relationship between desirability as a leader and desirability as a follower, the present study was conducted to assess similarities and differences in personal characteristics among four types of individuals—namely, liked leaders, less-liked leaders, liked followers, and less-liked followers. It was expected that while both types of leaders would in some way be different from the followers, leaders and followers of equated popularity would also have certain characteristics in common.

A total of 72 men who had wintered-over at four Antarctic scientific stations served as *S*s. Based upon a year's experience with the men at their

stations, two supervisors at each station independently evaluated all station members on several attitudinal and behavioral characteristics, one of which was a leadership-followership scale and another of which was a likability scale. By dichotomizing the members of each station on both the leadership and the likability scales, four experimental groups of liked and less-liked leaders and followers were obtained for comparison on other personal characteristics.

Both liked and less-liked leaders were more self-confident, alert, job motivated, and aggressive than the follower groups of comparable likability. On the other hand, liked leaders and liked followers, in contrast to the less-liked leaders and followers, were more satisfied with the assignment, emotionally controlled, accepting of authority, and motivated to be efficient group members. In terms of their overall profile of attitudes and behavior, the liked leaders and the liked followers were found to be most similar—more so than liked leaders with less-liked leaders, liked followers with less-liked followers, or less-liked leaders with less-liked followers. It was suggested that the underlying orientation in common to liked leaders and followers was an attitude of teamwork and respect for various forms and sources of authority.

References

1. Bass, B. M. Leadership, Psychology, and Organizational Behavior. New York: Harper, 1960.
2. Bell, G. B., & French, R. L. Consistency of individual leadership position in small groups of varying membership. In A. P. Hare, E. F. Borgatta, & R. F. Bales (Eds.), *Small Groups: Studies in Social Interaction*. New York: Knopf, 1955. Pp. 275-279.
3. Borg, W. R. The behavior of emergent and designated leaders in situational tests. *Sociometry*, 1957, **20** (2), 95-104.
4. Borgatta, E. F., Bales, R. F., & Couch, A. S. Some findings relevant to the great man theory of leadership. *Amer. Sociol. Rev.*, 1954, **19**, 755-759.
5. Gallo, P. S., & McClintock, C. G. Behavioral, attitudinal, and perceptual differences between leaders and nonleaders in situations of group support and nonsupport. *J. Soc. Psychol.*, 1962, **56**, 121-133.
6. Gibb, C. A. Leadership. In G. Lindzey (Ed.), *Handbook of Social Psychology*. Cambridge, Mass.: Addison-Wesley, 1954. Pp. 877-920.
7. Hollander, E. P. Conformity, status, and idiosyncratic credit. *Psychol. Rev.*, 1958, **65** (2), 117-127.
8. Hollander, E. P., & Webb, W. B. Leadership, followership, and friendship: An analysis of peer nominations. *J. Abn. & Soc. Psychol.*, 1955, **50** (2), 163-167.
9. McNemar, Q. Psychological Statistics. New York: Wiley, 1949.
10. Slater, P. E. Role differentiation in small groups. In A. P. Hare, E. F. Borgatta, & R. F. Bales (Eds.), *Small Groups: Studies in Social Interaction*. New York: Knopf, 1955. Pp. 498-515.

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PERCEPTUAL INTERPRETATION OF THE SOCIAL DIAD: I. JUDGMENTS OF ACCEPTANCE* [1]

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A. INTRODUCTION

The study reported in the following sections seeks to explore some of the basic factors determining the interpretation of human diads, or combinations of two people in visible and apparent relation to each other. Thus, it is a study in the perceptual interpretation of stimuli, the most primary of social combinations—namely, the diad. As a study of perception, it follows the classic pattern, using the method of constant stimuli and requiring the subject, as we shall presently see, to rate each of these diads upon a psychophysical continuum. In this respect it follows the prototype of classical psychophysical and perceptual studies. In essence, we present a systematically varied group of diadic profiles and request our subjects to rate the degree with which each figure accepts the other. Both the type of rating required and the type of stimulus employed constitute a significant departure from any previous studies known to us. However, the postural and expressive relations parallel the work of Engen *et al.* (1, 2).

Our concentration on the perception of the human diad is dictated by some basic theoretical considerations. Among these is the recognition that diadic relations constitute the most primal and ubiquitous of all social relations. The laws governing their interpretation can be seen as general laws of social perception at the same time that individual idiosyncrasy in the interpretation should constitute an illuminating revelation of individual differences. In this paper we are not concerned, however, with the measurement of individual differences in character, temperament, and social outlook. Rather, we are confining our report here to some of the general properties of diadic postures which dictate the interpretation of the acceptance attitudes of the persons represented. In effect, we are exploring some of the laws which relate to the language of postures as this language has a common acceptance and idiom, at least among people in our culture.

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At the outset we should point out that we have confined ourselves to a single type of diadic human relation—namely, that of a young man to a young woman. Furthermore, we have represented them with certain constancies maintained—namely, face to face with the female figure always to the left. That this type of stimulus is capable of very wide variation beyond that which we shall presently describe is self-evident. For example, it is perfectly possible to represent father-son, mother-son, father-daughter, etc., diads and to place the figures in frontal as well as profile relations.

B. Method and Procedure

The subjects used in this experiment consisted of two groups: 60 primary- and secondary-school teachers enrolled in summer school and 33 student nurses at the local state hospital. The summer-school population was equally divided by sex, and ranged in age from the early 20s to the mid 40s. The test to be presently described was administered to the subjects in small groups ranging from 33 downwards. Each subject received a nominal payment for his services.

The construction and administration of the Diadic Profile Test may be described as follows. The test itself consists of a series of black-and-white silhouettes showing two figures, one a young man and the other a young girl, facing each other. Their positions with respect to each other are, however, varied according to a systematic pattern. Thus, there are three elevation patterns: namely, a pattern in which the girl is higher than the boy, a pattern in which they both are equal in elevation, and a pattern in which the boy is conspicuously higher than the girl. In addition to these three elevation patterns, each figure is permitted to rotate from upright position to one backward position and two forward positions in such a fashion that it may occupy four positions as follows: (*a*) a 10° backwards rotation, (*b*) a normal upright position, (*c*) a rotation forward of 10°, and (*d*) a rotation forward of 20°. We have, accordingly, four rotation positions for each figure and three elevation patterns. All permutations and combinations of these were constructed, yielding 48 diadic profile pictures portraying these two people.

These silhouettes were presented in random order to the subjects, who were asked to identify the nature of the interpersonal exchange in a detailed schema which we shall report elsewhere. Thereafter, they were asked to rate, on a seven-point scale, the degree to which each figure felt loving, trusting, and accepting of the other, as opposed to fearful, distrustful, and hostile—

i.e., (*a*) the degree to which the boy feels accepting of the girl, and (*b*) the degree to which these sentiments are held by the girl in respect to the boy.

In order to acquaint the subjects with the nature of the task, several sample pictures were exposed in advance, and three possible interpretations were suggested for each sample. Thereafter the regular series of profiles was projected. We obtained 96 acceptance ratings from each of our subjects; i.e., two from each of 48 slides. In the following report of our results, we shall keep the analysis of our summer-school subjects separate from that of the nursing students, regarding the second group as essentially a replication of the initial experiment.

C. Results

The data obtained in the manner described above were treated by the method of analysis of variance, four separate analyses being carried out as follows: (*a*) acceptance scores by the female figure for summer-school students, (*b*) acceptance scores by the male figure for summer-school students, (*c*) acceptance scores by the female figure for the nursing students, and (*d*) acceptance scores by the male figure for the nursing students. The design of the analyses was identical for both groups of subjects, except that in the case of the summer-school data the sex of the respondent constituted an additional variable. In order to keep the computations within convenient and manageable limits, the mean acceptance ranking for each picture was used rather than the individual rankings assigned by particular subjects. Thus, for our analyses of the summer-school data, 96 means were subject to analysis (48 contributed by male, 48 by female subjects). In the case of the nursing students, analysis was made of the 48 silhouette means only. In our analysis of variance of the data from the summer-school students, four dimensions were involved—namely, rotation of the male figure, rotation of the female figure, elevation pattern, and sex of subject.

Table 1 shows the mean acceptance ratings for each of the rotation positions of the male and the female figure, for the elevation pattern, and for the sex of the respondent when the acceptance of the male figure by the female figure is being judged.

Table 2 presents the results of this analysis of variance in terms of the four dimensions and all first-order interactions. The error term derives from the aggregate sum of squares attributable to second- and third-order interactions.

It will be seen that when the female figure is being judged only two variables emerge as significant determinants: namely, the rotation of the

TABLE 1
MEAN ACCEPTANCE OF MALE FIGURE BY FEMALE (SUMMER STUDENTS)

Male rotation	*M*	Female rotation	*M*	Elevation	*M*
B	3.80	B	4.55	1	3.75
U	3.46	U	3.68	2	3.63
F_1	3.32	F_1	2.98	3	3.11
F_2	3.40	F_2	2.78		
	3.47		3.52		

TABLE 2
ANALYSIS OF VARIANCE FOR ACCEPTANCE BY FEMALE (SUMMER STUDENTS)

Factor	Sum of squares	*df*	*MS*	*F*	*p*
Total	98.39	95			
Male rotation (MR)	3.18	3	1.06		n.s.
Female rotation (FR)	46.39	3	15.46	29.7	7.01
Elevation (E)	7.56	2	3.78	7.3	7.01
Sex of subject (S)	.07	1	.07		n.s.
MR × FR	1.11	9	.12		n.s.
FR × E	4.45	6	.74		n.s.
FR × S	1.13	3	.38		n.s.
MR × E	3.75	6	.62		n.s.
MR × S	.58	3	.02		n.s.
E × S	.03	2	.02		n.s.
Error	30.14	58	.52		

female figure and the elevation pattern. It is clear from the tables of means given above that the female is judged increasingly accepting as her head moves from the backward to the most forward rotation. Again, she is judged more accepting when her elevation is below that of the male figure. The rotation of the male figure is not here a statistically secure determinant of the female acceptance rating, though the mean rating assigned the female when the male head is rotated backwards is suggestively higher than when the male figure is in the other three rotation positions. None of the first-order interactions proved to be significant. Thus, in summary, it would appear that the overwhelming determinant of acceptance by the female figure is the degree of rotation of her head and, secondarily, her elevation with respect to the male figure. It should be noted that the sex of the subject is totally without significance, independently or in interaction with the other variables.

The acceptance rating by the male figure of the female figure by our summer-school subjects was carried out in the same fashion as described above. Table 3 sets forth the means for each rotation position of both figures, the elevation patterns, and the sex of the respondents, while Table 4 shows the results of our factor analysis. Once again the error term was based on the

sum of squares of the second- and third-order interactions. The results here appear to be much more incisive than when the acceptance by the female figure is being judged. We may note that the most important determinant is again the rotation position of the figure judged—i.e., male figure—but the

TABLE 3
MEAN ACCEPTANCE OF FEMALE FIGURE BY MALE (SUMMER STUDENTS)

Male rotation	*M*	Female rotation	*M*	Elevation	*M*
B	4.33	B	4.01	1	3.10
U	3.80	U	3.60	2	3.89
F_1	3.23	F_1	3.40	3	3.85
F_2	3.12	F_2	3.44		
	3.64		3.58		

TABLE 4
ANALYSIS OF VARIANCE FOR ACCEPTANCE BY MALE (SUMMER STUDENTS)

Factor	Sum of squares	*df*	*MS*	*F*	*p*
Total	70.15	95			
Male rotation (MR)	22.15	3	7.38	74.0	$<.01$
Female rotation (FR)	5.83	3	1.94	19.0	$<.01$
Elevation (E)	13.35	2	6.67	67.0	$<.01$
Sex of subject	.07	1	.07	.7	n.s.
MR × FR	6.96	9	.77	7.7	$<.01$
MR × E	13.53	6	2.25	22.5	$<.01$
MR × S	.99	3	.33	3.3	$<.05$
FR × E	.95	6	.16	1.6	n.s.
FR × S	.26	3	.09	.9	n.s.
E × S	.12	2	.06	.6	n.s.
Error	5.94	57	.10		

elevation pattern and the rotation position of the feminine figure are also significant determinants, in that order. Thus, as the male silhouette is rotated forward, he is judged increasingly accepting of the female figure and, as he occupies a lower elevation, he is judged as more accepting. It is of secondary interest, however, that his acceptance of her is also influenced by her rotation; as her head is rotated forward, he is judged to accept her more fully. Sex differences of the subjects yielded no significant pattern. It may be observed, also, that two of the second-order interactions attain the 1 per cent level—namely, male rotation by elevation, and male rotation by feminine rotation—while there is a suggestive interaction between male rotation and sex of the respondent.

Unquestionably, the most important interaction is that between male rotation and elevation. Table 5 shows the means involved in this interaction. It

will be perceived that in the second and the third elevation positions there is a consistent increase in the acceptance rating as the male figure is rotated from back to forward position. This does not, however, apply in the first elevation position where the male is at a lower height than the female. If his head is back (looking up at her) he is judged to be more accepting than in any other rotation position, and the gradient characterizing the other two elevation patterns is not sustained. It is interesting to note that a comparable interaction between elevation and rotation does not obtain when the female figure is being judged, though we shall not now venture an interpretation of this fact.

TABLE 5
MEANS FOR MALE ROTATION AND ELEVATION (SUMMER STUDENTS)

	Rotation			
	B	U	F_1	F_2
Elevation 1	2.98	3.16	3.08	3.11
Elevation 2	5.05	4.03	3.29	3.25
Elevation 3	4.95	4.10	3.38	2.99

The remaining two interactions are clearly of much less importance, and the one between male rotation and sex of the subject is of dubious significance. The interaction between male rotation and female rotation, though significant at the 1 per cent level, does not lend itself to secure interpretation.

The data obtained from the student-nurse subjects were treated in the same manner as that from the summer-school teachers. The mode of analysis was somewhat simplified by the fact that there were no sex differences among the respondents. But, as we have observed in our analysis of the school-teachers' ratings, the sex of the subject proved to be of virtually no significance whatever as a determinant of the ratings. Table 6 lists the mean acceptance scores by the female figure as a function of the rotation of the female figure, the rotation of the male figure, and the elevation pattern.

Table 7 sets forth our analyses of variance of these scores. It will be ob-

TABLE 6
MEAN ACCEPTANCE OF MALE FIGURE BY FEMALE (STUDENT NURSES) AS A FUNCTION OF ROTATION

Male rotation	*M*	Female rotation	*M*	Elevation	*M*
B	3.82	B	4.58	1	3.63
U	3.27	U	3.33	2	3.62
F_1	3.12	F_1	2.73	3	2.98
F_2	3.29	F_2	2.85		

served from these tables that the overwhelming determinant is the rotation of the female figure, while both the elevation pattern and the rotation position of the male figure are securely significant. None of the interactions proved of significance. These results replicate those obtained from our summer-school subjects, with the single exception that the rotation of the male

TABLE 7
ANALYSIS OF VARIANCE FOR ACCEPTANCE BY FEMALE (STUDENT NURSES)

Factor	Sum of squares	*df*	*MS*	*F*	*p*
Total	45.68	47			
Male rotation (MR)	3.46	3	1.15	5.00	$<.02$
Female rotation (FR)	26.16	3	8.72	37.91	$<.01$
Elevation (E)	4.51	2	2.25	7.50	$<.01$
MR × FR	.97	9	.11	.48	n.s.
FR × E	3.50	6	.58	2.52	n.s.
MR × E	2.98	6	.50	2.17	n.s.
Error	4.10	18	.23		

figure proves a minor, but significant, determinant here as it did not in our first experiment.

Finally, we present in Table 8 the mean acceptance scores assigned to the male figure for all rotations of the male figure, the female figure, and elevation patterns. In Table 9 we present the results of our analysis of variance of these ratings. There is a striking parallel between these results and those obtained from the summer-school students. Thus, of greatest importance is the rotation of the male figure, and of lesser, but highly secure significance, the

TABLE 8
MEAN ACCEPTANCE OF FEMALE FIGURE BY MALE (STUDENT NURSES)

Male rotation	*M*	Female rotation	*M*	Elevation	*M*
B	4.36	B	4.05	1	3.22
U	3.45	U	3.62	2	3.91
F_1	3.08	F_1	3.22	3	3.58
F_2	3.23	F_2	3.23		

TABLE 9
ANALYSIS OF VARIANCE FOR ACCEPTANCE BY MALE (STUDENT NURSES)

Factor	Sum of squares	*df*	*MS*	*F*	*p*
Total	40.58	47			
Male rotation (MR)	12.09	3	4.03	23.7	$<.01$
Female rotation (FR)	5.63	3	1.88	11.1	$<.01$
Elevation (E)	3.78	2	1.89	11.1	$<.01$
MR × FR	3.61	9	.40	2.35	$>.05$
MR × E	10.59	6	1.76	10.3	$<.01$
FR × E	1.88	6	.31	1.8	n.s.
Error	3.0	18	.17		

elevation pattern and rotation of the female figure. It should be noted, however, that the interaction of male rotation and elevation is once again of first importance. Table 10 shows the pertinent means, and again it will be observed that the acceptance gradient which we have described generally does not hold for the first elevation position when the male figure is being judged. That is, when the male figure is inferior in elevation to the female, he is not judged unaccepting when his head is upright or thrown backward. The interaction between male and female rotation, though significant at the 5 per cent level and consistent with results obtained from the summer-school students, is not capable of ready interpretation. It will be observed, however, that the results obtained from our analysis of the male acceptance score, obtained from our nurses, bear a striking parallel to those obtained from our summer-school subjects.

TABLE 10
MEANS FOR MALE ROTATION AND ELEVATION (STUDENT NURSES)

	Rotation			
	B	U	F_1	F_2
Elevation 1	3.05	3.07	3.30	3.45
Elevation 2	5.30	3.55	3.25	3.52
Elevation 3	4.87	3.82	2.80	2.82

D. CONCLUSION

In the foregoing we have been able to show that there appears to be very substantial agreement concerning the interpretation of diadic profiles with respect to the acceptance of each figure by the other when the relation of these figures is substantially varied according to the schema we have described. This does indeed suggest that some kind of common postural language is a part of the human communication idiom and that such postural language has probably long been known and practiced in the pictorial and theatrical arts without explicit formulation. As we have seen, the most important determinant of the judged acceptance by the individual represented is the rotation of the head. But at least with respect to the male figure, it is evident that the relative elevation of the two figures and the rotation of the second figure also enter as significant determinants. It appears that this complex psychophysical dimension of judged acceptance is a complicated product of three separate properties of the stimuli, in addition to some interaction of these, at least in the case of the male figure. It is thus possible to write a rough general equation for the determinants of judged acceptance as follows: Judged acceptance will generally increase as the figure judged is rotated into forward position,

is of inferior elevation, and as the other figure is rotated forward, in this order of importance. This first approximation should probably be supplemented by a recognition of the interaction pattern relating elevation to rotation in the judgment of the male figure, but we shall not attempt to introduce this elaboration here.

While the main purpose of this paper has been to demonstrate concurrence in the interpretation of our diadic silhouettes, there remains the larger and more interesting question of individual differences. Preliminary experiments have indicated that when qualitative interpretations of the profiles are elicited, significant differences emerge between schizophrenics and normal populations, male and female populations, and different occupational groups. Thus, the use of this instrument for the measurement of individual variations in social perception and interpretation holds some genuine promise and is, in fact, the subject of current investigation.

References

1. Engen, T., Levy, N., & Schlosberg, J. A new series of facial expressions. *Amer. Psychol.*, 1957, **12**, 264-266.
2. ———. The dimensional analysis of a new series of facial expressions. *J. Exper. Psychol.*, 1958, **55**, 454-458.

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ATTITUDES TOWARD BLINDNESS IN TWO COLLEGE GROUPS* [1]

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A. INTRODUCTION

It is felt by many workers in the field of the blind that the devaluating attitudes of sighted people toward blindness contribute strongly to the adjustment difficulties of blind people (e.g., 1-5). It becomes important therefore to understand the nature of these attitudes. An aspect of this "understanding" involves the study of attitudinal variation (or similarity) among different social groupings, among those with differing educational backgrounds, and among those with differing general orientations toward disadvantaged groups.

This study is particularly concerned with one phase of the latter question—more specifically, the analysis of the attitudinal differences and similarities between college groups presumed to vary in their general orientation toward, as well as their familiarity with, the overall problems of physical rehabilitation.

Part of the training of the social worker, as a prospective member of a helping profession, involves acting in ways designed to ameliorate the problems of handicapped people in general and blind people in particular. If these problems include the devaluating attitudes of the nonhandicapped, one would expect that social-work students would display stereotyped, devaluating attitudes to a lesser extent than other college populations. On the other hand, social-work and nonsocial-work college groups, by dint of exposure to common cultural values and stereotypes, may share a good many feelings and ideas centering about blindness. This paper is an attempt to explore such areas of attitudinal consensus and divergence.

* Received in the Editorial Office on October 19, 1962. Copyright, 1964, by The Journal Press.

[1] This paper is based on a research project sponsored by the Office of Vocational Rehabilitation, Department of Health, Education and Welfare (Project No. RD346) and The Seeing Eye, Inc., Morristown, New Jersey. The data were gathered and analyzed when the authors were at the Research Center, The New York School of Social Work, Columbia University.

B. Method

1. *Subjects and Questionnaire*

Questionnaires on attitudes toward blindness were administered in group form to two groups. The first comprised 65 first-year students of the New York School of Social Work. This group comprised a two-thirds random sample of the psychopathology classes which include most of the full-time first-year students. The second group comprised 58 Hunter College evening students enrolled in introductory courses in sociology.[2] The two groups are similar with respect to sex and age distributions. Both groups are predominantly female—73 per cent and 79 per cent for the Hunter and the Social Work students respectively. For the Hunter group, the median age is 25 years, with a range from 17 to 50 years; for the Social Work students the median age is 29, with a range from 20 to 50 years.

Because of limitations in administration time, the Social Work questionnaire contained fewer items than the questionnaire administered to the Hunter group. The analysis reported here refers to the items common to both questionnaires. These items can be grouped under four headings: (*a*) items dealing with general orientation toward blindness (listed in Table 1); (*b*) items concerned with the perceived attributes of blind people (listed in Tables 2 and 3), (*c*) items concerned with public policy toward blind people (listed in Table 4); and (*d*) items dealing with readiness for personal interaction with blind people (listed in Table 5). In addition, there were two items dealing with information about blindness (see Tables 7 and 8) and with acquaintance with blind people (see Table 10).

2. *Statistical Treatment*

The significance of differences between the two groups on the various items was evaluated by means of chi-square. Several indices were devised to control for extraneous factors or "response sets" which may have resulted in spurious differences between the two groups. An assessment of the degree to which the individual may be conforming to group expectations was attempted by means of a Consensus index. This was obtained by summing the number of times a respondent selected any of 12 response categories which had been selected by a majority of both groups. A Generalization index was designed to tap the degree to which the respondent tends to make extreme generaliza-

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[2] The writers are indebted to Dean Clara A. Kaiser and Dr. Monroe Lerner for making it possible to administer the questionnaire to classes at The New York School of Social Work and at Hunter College respectively.

tions in response to attitudinal items. The respondent's generalization score was the number of times he responded with "all or almost all" or "none or practically none" to the four items listed in Table 3 which require the respondent to estimate the number of blind people possessing various attributes.

Level of information about blindness was controlled statistically by the following procedure. Four informational categories were formed in order to derive subgroupings homogeneous in level of information about blindness: (*a*) an "informed" group who answered correctly both information items listed in Tables 7 and 8, (*b*) an "uninformed" group who answered neither correctly, (*c*) a "moderately informed" group who answered only the first information item correctly, and (*d*) another "moderately informed" group who answered only the second information item correctly. The differences between the Hunter and the Social Work students for a particular item were evaluated *within* each of these four groups. The median percentage difference then represented an item difference between the two groups controlled for informational level. A similar procedure was used to control for level of contact with blind people. For example, the percentage difference between the two groups with respect to a particular item was calculated separately for those answering "yes" and for those answering "no" to "Do you know anyone like a neighbor, distant relative who is blind?" Averaging these two percentages then represented an item difference between the two groups controlled for level of contact as assessed by the above question.

An Information index was formed, based on an individual's combined responses to the two information items. However, in order to represent degree of information about blindness as a continuum, the two moderately informed groups were combined, resulting in three categories: Informed, Moderately Informed, and Uninformed.

C. Results

The comparison of the Hunter and the Social Work students on items dealing with their general orientations toward blindness is presented in Table 1. Several points emerge:

1. In general there is little difference between the Hunter and the Social Work students with respect to the degree to which they emphasize the importance or the seriousness of blindness either to the blind person or to the sighted respondent himself. This is the only one of the four attitudinal areas in which there is this degree of unanimity between the two groups.

2. Both groups dislike the idea of appraising a person *mainly* in terms of his blindness (item 1). On the other hand, there is much more readiness to

perceive blind people as a separate group or as a special class in society (item 2).

3. About one-half of each group feel that in becoming blind the ensuing social devaluation is more painful than the sheer visual loss (item 3).

4. A minority in each group believe that they could never be really happy if blinded. There is a trend, though just missing statistical significance, for Hunter students to perceive blindness as more inherently frustrating, with 45 per cent of this group doubting the possibility of happiness should they themselves become blind.

TABLE 1
ITEMS DEALING WITH GENERAL ORIENTATIONS TOWARD BLINDNESS

Item	Per cent agree[a] Hunter ($N = 58$)	Social work ($N = 65$)
1. The most important thing you can know about a blind person is the very fact that he is blind.	26	20
2. It is silly to talk about blind people as if they formed a special class in society.	57	60
3. The worst thing about blindness is the attitude of the sighted toward the blind, rather than the sheer loss of vision.	55	54
4. If I were blind I doubt if I could ever be really happy.	45	26

[a] None of the percentage differences reaches the .05 level of significance.

Tables 2 and 3 deal with the perceived attributes of blind people. In contrast to the more general question cited above, the Hunter group's responses show a number of marked discrepancies from those of the Social Work students. Some of the outstanding differences arise on items referring to unusual or unfamiliar qualities of blind people. Thus there is more of a tendency on the part of the Hunter group to perceive blind people as having unique feelings (Table 3, item 3), as having unusual musical gifts or as having intuitive powers (Table 2, items 4 and 5). Coupled with this is the greater inclination on the part of the Hunter, as compared with the Social Work students, to see blind people in a kind of cheerful light—as people who are friendly toward the sighted (Table 2, item 3), who do not feel sorry for themselves (Table 3, item 1), who feel they are just as good as the sighted (Table 3, item 2).

The views of the two groups with respect to some public policies regarding blind people are set forth in Table 4. There is consistent agreement that blind

people are not to be given special treatment, either in the form of a dole or by having special jobs set aside for them (items 1-3). However both the Hunter and the Social Work students see the desirability of blind people

TABLE 2
ITEMS DEALING WITH ATTRIBUTES OF BLIND PEOPLE

Item	Per cent agree Hunter ($N = 58$)	Per cent agree Social work ($N = 65$)
1. Blind people need to have unusual personality assets in order to be successful.	55	45
2. People who are born blind tend to develop similar traits.	47	22**
3. Blind people tend to be friendly toward sighted people.	84	65*
4. The blind tend to get a more accurate first impression of others than most people do.	64	17***
5. The blind tend to have unusual musical gifts.	48	19***
6. Some blind people are able to travel without help because they are gifted with unusual abilities.	34	26

* Percentage difference significant at .05 level.
** Percentage difference significant at .01 level.
*** Percentage difference significant at .001 level.

TABLE 3
ADDITIONAL ITEMS DEALING WITH ATTRIBUTES OF BLIND PEOPLE

Item	Per cent saying "all or almost all" or "many" Hunter ($N = 58$)	Per cent saying "all or almost all" or "many" Social work ($N = 65$)
1. Some say it is natural for blind people to feel sorry for themselves. Of blind persons I would imagine this is true for:	14	37*
2. Some say blind people tend to feel they're just as good as sighted people. Of blind persons I would imagine this is true for:	67	55
3. Some say the blind have a whole set of feelings which cannot be understood by most other people. Of blind persons I would imagine this is true for:	35	5**
4. Some say blind people are more susceptible to mental illness than the sighted. Of blind persons I would imagine this is true for:	3	5

* Percentage difference significant at .01 level.
** Percentage difference significant at .001 level.

having their own social agencies rather than having them use the regular agency facilities of the nonhandicapped (item 4). The one outstanding difference between the two groups lies in perceived effectiveness of special workshops in handling the employment problems of blind people (item 5). The group difference on this item stems mainly from the sharp rejection by the Social Work students of the sheltered workshop as an employment solution.

TABLE 4
ITEMS DEALING WITH PUBLIC POLICY TOWARD BLIND PEOPLE

Item	Per cent agree Hunter ($N = 58$)	Per cent agree Social work ($N = 65$)
1. Blind persons who beg for a living should not be disturbed by the police.	31	20
2. As a matter of principle I do not give coins to blind beggars.	64	69
3. Certain jobs should be set aside for blind persons where they don't have to compete with sighted people.	41	34
4. It is best for blind persons to have their own agencies equipped to deal with their special problems.	81	65
5. Sheltered workshops for the blind can adequately solve the employment problem of persons who happen to be blind.	64	16*

* Percentage difference significant at the .01 level.

Responses to items dealing with readiness for personal interaction with blind people are shown in Table 5. There is little difference between the two groups with respect either to the perceived ease or to the perceived advisability of blind associating with sighted (items 1 and 2). Thus a good 40 per cent of both groups feel there is greater inconvenience in interacting with blind as compared to sighted people. The difference between the Hunter and the Social Work groups emerges in differential prescriptions around the *quality* of the interaction. The Social Work students, more than the Hunter students, tend to avoid implications of special treatment, special favoritism, or overprotectiveness for blind people (items 3-5); i.e., the word "blind" need not be avoided in conversation, one need not overlook a blind person's faults because he is blind, and disabled people do not have an especially empathic gift for dealing with blind people.

Tables 6-9 deal with differences between the two groups as they related to information about blindness. Table 6 compares the Hunter and the Social Work students with respect to the Information index which, it may be recalled, is based on the two information items listed in Tables 7 and 8.

TABLE 5
ITEMS DEALING WITH PERSONAL INTERACTION WITH BLIND PEOPLE

Item	Per cent agree Hunter ($N = 58$)	Social work ($N = 65$)
1. It would be easier to spend an evening with a sighted person than to spend an evening with a person who is blind.	43	39
2. A blind person would be better off if he chooses mainly sighted friends.	35	23
3. Because they know each other's problems better, the blind can put their trust in other disabled people more than those not disabled.	38	8**
4. If you are talking to a blind person, it is preferable to avoid using the word "blind" in conversation.	41	11**
5. I think if a blind person becomes angry with people over little things, it should be overlooked because of his blindness.	29	9*

* Percentage difference significant at .01 level.
** Percentage difference significant at .001 level.

It can be seen from Table 6 that the Social Work group is more highly informed than the Hunter students. There are twice as many Social Work students in the "informed" category as Hunter students. The difference is significant at the .01 level.

TABLE 6
COMPARISON OF HUNTER AND SOCIAL WORK GROUPS ON THE INFORMATION INDEX

Category[a]	Hunter	Social work
Informed	26%	51%
Moderately Informed	38	35
Uninformed	36	14
Total	100% ($N = 58$)	100% ($N = 65$)

Note: Chi-square = 11.99, $df = 2$, $p < .01$.
[a] See "Method" for explanation of categories.

Separate analyses of the two items comprising the Information index are presented in Tables 7 and 8. The Social Work students answer correctly more often to both items. However, it is the interactional type of item (Table 7) which discriminates significantly between the two groups, with the Hunter group showing a more protective type of response (take his arm) than the Social Work students in the hypothetical situation of accompanying a blind acquaintance.

TABLE 7
RESPONSE TO FIRST INFORMATION ITEM: "IF YOU HAD A BLIND ACQUAINTANCE DO YOU THINK, AS A GENERAL RULE, YOU WOULD HAVE YOUR ACQUAINTANCE TAKE HOLD OF YOUR ARM WHILE WALKING DOWNSTAIRS, OR DO YOU THINK YOU WOULD TAKE HOLD OF YOUR ACQUAINTANCE'S ARM?"

Response	Hunter	Social work
Take his arm	36%	12%
Have him take mine	43	69
Not sure	21	17
No answer	—	2
Total	100%	100%
	($N = 58$)	($N = 65$)

Note: Chi-square = 10.61, $df = 2$, $p < .01$.

TABLE 8
RESPONSE TO SECOND INFORMATION ITEM: "MOST BLIND PEOPLE TRAVEL WITH THE AID OF DOG GUIDES"

Response	Hunter	Social work
True	9%	3%
False	46	66
Not sure	45	31
Total	100%	100%
	($N = 58$)	($N = 65$)

Note: Chi-square = 4.80, $df = 2$, $p > .05$.

Table 9 explores the role that level of information plays in producing the particularly large differences between the two groups on six attitudinal items. It can be seen that even though the two groups are unevenly informed about blindness, the statistical removal of this discrepancy does not appreciably change the attitudinal differences revealed by responses to these six items. The percentage differences with level of information partialled out closely parallel those derived from the original analysis, where level of information was free to vary.

TABLE 9
DIFFERENCES BETWEEN HUNTER AND SOCIAL WORK GROUPS ON SIX DIFFERENTIATING ITEMS WHEN LEVEL OF INFORMATION ABOUT BLINDNESS IS CONTROLLED

Item written out in:	Original percentage difference	Percentage difference controlled for information level
Table 2, item 4	47	46
Table 2, item 5	29	41
Table 4, item 5	48	39
Table 5, item 3	30	28
Table 5, item 4	30	38
Table 5, item 5	20	28

Tables 10 and 11 present a similar analysis of degree of contact with blind people as a factor contributing to the attitudinal differences on the same six items. Table 10 indicates that the two groups are not significantly differentiated with respect to the variable of *close* acquaintance with blind people. However, there are significantly more Social Work than Hunter students who know blind people or come into contact with them at work. Despite these differences, Table 11 reveals that the original differences between the two groups on the six attitudinal items are still maintained even though level of contact on items 1 and 3 of Table 10 are partialled out.

TABLE 10
COMPARISON OF HUNTER AND SOCIAL WORK GROUPS ON ITEMS DEALING WITH CONTACT WITH BLIND PEOPLE

	Per cent saying "yes" Hunter ($N = 58$)	Social work ($N = 65$)
1. Do you know anyone like a neighbor, distant relative who is blind?	35	60**
2. Are you closely acquainted with anyone who is blind?	21	22
3. In your work experience, have you any contact with a person who is blind?	22	46*

* Percentage difference significant at .05 level.
** Percentage difference significant at .01 level.

TABLE 11
DIFFERENCES BETWEEN HUNTER AND SOCIAL WORK GROUPS ON SIX DIFFERENTIATING ITEMS WHEN LEVEL OF CONTACT WITH BLIND PEOPLE IS CONTROLLED

Item written out in:	Original percentage difference	Percentage difference controlled for item 1[a]	Percentage difference controlled for item 3[a]
Table 2, item 4	47	48	46
Table 2, item 5	29	33	34
Table 4, item 5	48	42	46
Table 5, item 3	30	36	39
Table 5, item 4	30	36	34
Table 5, item 5	20	20	19

[a] Item 1 refers to item 1 in Table 10, "Do you know anyone like a neighbor, distant relative who is blind?" Item 3 refers to item 3 in Table 10, "In your work experience, have you any contact with a person who is blind?"

Finally, the difference between the Hunter and the Social Work mean scores on the Consensus index failed to reach significance at the .05 level ($CR = 1.72$). Similarly, as Table 12 reveals, a comparison of the Hunter

and the Social Work groups with respect to tendencies to generalize about blind people failed to show a significant difference.

TABLE 12
COMPARISON OF HUNTER AND SOCIAL WORK TENDENCIES TO GENERALIZE ABOUT BLIND PEOPLE

Number of items for which generalizing responses given[a]	Hunter	Social work
0	43%	42%
1	34	43
2	21	15
3-4	2	0
Total	100%	100%
	($N = 58$)	($N = 65$)

Note: Chi-square = 1.45, $df = 2$, $p > .05$. Chi-square based on table in which categories 2 and 3-4 are collapsed.

[a] The items are those listed in Table 3. "Generalizing" involves responding "all or almost all" or "none or practically none" to these items.

D. DISCUSSION

Several possible interpretations of the differences between the Hunter and the Social Work students come to mind. Age and sex differences have little explanatory value since the differences between the groups in these factors are relatively slight, as pointed out in the "method" section.

Another explanatory possibility is acquiescent set. However, among the 20 items having an agree-disagree format, eight show significant differences between the two groups and 12 do not. On the basis of acquiescent set alone, it is difficult to make reliable predictions as to whether or not the two groups will differ on any particular issue related to attitudes toward blindness.

Another response set which might be considered is social desirability. One such set involves offering responses designed, consciously or unconsciously, to conform to what is perceived as the thinking of the designer of the questionnaire. Perhaps the Social Work group has more correctly divined the attitudinal orientation of the investigators, and their less stereotyped responses are merely a reflection of this desire to say what the investigators believe. However, if this were so, one would predict that the Social Work group would agree more heavily to item 3, Table 1 ("The worst thing about blindness is the attitude of the sighted toward the blind, rather than the sheer loss of vision"). In actual fact, the percentages of agreement are nearly identical (55 per cent for the Hunter as against 54 per cent for the Social Work students).

Another aspect of social desirability involves the desire to conform to group consensus. Perhaps the Social Work group has more of an inclination to conform to what college groups (as contrasted to what the researchers) consider appropriate attitudes toward blindness. However, the Consensus index, which is a measure of the degree to which a respondent's replies agree with group consensus, does not discriminate significantly between the two groups.

Still another possibility is that we are dealing here with an informational difference between the two groups. Thus the differences in educational or socioeconomic level between the two groups might be reflected in differences in specific knowledge regarding the problems of blindness and blind people. These cognitive differences, in turn, might be reflected in contrasting attitudes toward blindness. Some support for this interpretation is derived from the fact that the Social Work group does display more knowledge about blindness, at least on our Information index. However, if the degree of information is important in producing differing attitudinal orientations, one would expect that the differences between the two groups on specific attitudinal items would vanish or at least be reduced markedly in the *absence* of informational variation. But such is not the case, since percentage differences on some of the items most clearly discriminating between the two groups are *not* reduced despite statistical control on level of information. Similar considerations point to the inadequacy of differential level of contact with blind people as an explanatory variable.

There is evidence, therefore, that neither such demographic factors as age or sex; nor such response-set variables as acquiescence, social desirability, or generalization tendencies; nor a cognitive factor, such as level of information; nor an experiential variable, such as contact with blind people, is sufficient to account for the differing attitudes toward blindness manifested by the Hunter and the Social Work students. It may be that we are dealing here with general orientations toward deviant groups, orientations on which the Hunter and the Social Work samples differ. These orientations may encompass three areas. First, the Social Work group may have a greater sensitivity to individual differences than the Hunter group, a greater commitment to the idea that much of the individual variation is quantitative rather than qualitative. This increased sensitivity would then be reflected in a stronger inclination to reject the idea that blind people are somehow unique whether in terms of feelings, abilities, or intuitive powers. A second general orientation which may differentiate the two groups is the Social Work students' increased sensitivity to individual emotional nuance. This general sensitivity, in reacting to blindness, may be manifested in a greater readiness

than the Hunter group to attribute emotional dissatisfaction to blind people. A third general characteristic which may differentiate the two groups is a greater nondirective emphasis in the Social Work group with regard to interpersonal relations. This enhanced self-deterministic orientation may then be expressed (in the context of blindness) as a reduced inclination for protectiveness, or for extension of unwanted help, or of special favoritism towards blind people.

Unfortunately the above suppositions are *ad hoc*—they are inferred from but cannot be tested from the data at hand. However, they are by no means untestable in principle. Thus the prediction would be made that the two groups would show consistent attitudinal differences if the context shifted from blindness to, let us say, delinquency or mental handicap, or to other physical handicaps, *and* if items were specifically constructed to tap differential orientations to individual differences or to emotional nuances, or to nondirective values. Another question regarding this interpretation of the data is concerned with the etiology of such broad orientations. Are they the product of social-work training or are they the product of certain selective factors that predispose these individuals to choose social-work training? It is plausible that such orientations are a product both of educational and of predispositional factors. However, the untangling of these factors requires specific experimental comparisons not afforded by the data at hand.

E. Summary

The purpose of this paper is to explore the attitudes toward blindness of two college groups (social work and evening college students) presumed to differ in their orientation toward the physically handicapped.

Four aspects of attitudes toward blindness were tapped by the questionnaire items: (*a*) general orientation toward blindness, (*b*) the perceived attributes of blind people, (*c*) public policy toward blind people, and (*d*) readiness for interaction with blind people.

Consensus between the two groups was found (*a*) with regard to generalized orientation toward blindness (e.g., a denial that blindness should be considered as the most important fact in a person's life), (*b*) with respect to aspects of public policy toward blind people (e.g., blindness does not entitle the individual to automatic charity nor to automatic occupational privilege), and (*c*) with respect to readiness for personal interaction with blind persons (with about 40 per cent of both groups feeling that spending time with a blind person would be inconvenient).

The main differences between the two groups dealt with (*a*) the perceived

attributes of blind people (with greater denial by the Social Work students of the unique qualities of blind people, but with greater attribution of unhappiness to the blind); and (*b*) the quality of interaction, with the Social Work students displaying a less protective orientation either at the interpersonal or at the public-policy level. A substantial minority of the Social Work group stressed the significance of blindness as an all-pervasive attribute in self- or other-evaluation.

The interpretation of the data was in terms of elimination of extraneous factors as explanatory variables and the assumption of several types of generalized orientation among the Social Work students toward disadvantaged groups.

References

1. Chevigny, H., & Braverman, S. The Adjustment of the Blind. New Haven: Yale Univ. Press, 1950. Pp. 320.
2. Cutsforth, T. D. The Blind in School and Society: A Psychological Study. New York: American Foundation for the Blind, 1951. Pp. 269.
3. Gowman, A. G. The War Blind in American Social Structure. New York: American Foundation for the Blind, 1957. Pp. 237.
4. Lukoff, I. F. A sociological appraisal of blindness. In S. Finestone (Ed.), *Social Casework and Blindness*. New York: American Foundation for the Blind, 1960. Pp. 19-44.
5. Whiteman, M. A psychological appraisal of blindness. In S. Finestone (Ed.), *Social Casework and Blindness*. New York: American Foundation for the Blind, 1960. Pp. 45-63.

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BOOKS

Now that there is a special APA journal completely devoted to the publication of book reviews, it is no longer necessary that other journals emphasize such publication. It has always been our conviction that book reviews are a secondary order of publication unless they carry information that is as equally important as the book. However, the publication of book titles is a very important service, and we shall continue to render that service.

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BOOKS RECENTLY PUBLISHED

BARRON, F. Creativity and Psychological Health: Origins of Personal Vitality and Creative Freedom. Princeton, N.J.: Van Nostrand, 1963. Pp. 292.

BARTZ, A. E. Elementary Statistical Methods for Educational Measurement. Minneapolis: Burgess, 1963. Pp. 103.

BECKER, H. S. Outsiders: Studies in the Sociology of Deviance. New York: Free Press of Glencoe, 1963. Pp. 179.

BENNETT, E., DEGAN, J., & SPIEGEL, J., *Eds*. Human Factors in Technology. New York: McGraw-Hill, 1963. Pp. 685.

BEREDAY, G. Z. F., & LAUWERYS, J. A., *Eds*. The Gifted Child: The Year Book of Education, 1962. New York: Harcourt, Brace & World, 1962. Pp. 541.

BERELSON, B., *Ed*. The Behavioral Sciences Today. New York: Basic Books, 1963. Pp. 278.

BIRREN, F. Color: A Survey in Words and Pictures, from Ancient Mysticism to Modern Science. New Hyde Park, N. Y.: University Books, 1963. Pp. 224.

BUCHANAN, C. D. A Programed Introduction to Linguistics: Phonetics and Phonemics. Boston: Heath, 1963. Pp. 288.

BUCKNER, D. N., & MCGRATH, J. J., *Eds*. Vigilance: A Symposium. New York: McGraw-Hill, 1963. Pp. 269.

BURROW, J. G. AMA: Voice of American Medicine. Baltimore: Johns Hopkins Press, 1963. Pp. 430.

BUTLER, J. M., RICE, L. N., & WAGSTAFF, A. K. Quantitative Naturalistic Research. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 122.

CANDLAND, D. K., *Ed*. Emotion: Bodily Change: An Enduring Problem in Psychology. New York: Van Nostrand, 1962. Pp. 263.

CANNON, W. B. Bodily Changes in Pain, Hunger, Fear and Rage: An Account of Researches into the Function of Emotional Excitement. New York: Harper & Row, 1963. Pp. 404.

CLIFFORD, J. W. In the Presence of My Enemies. New York: Norton, 1963. Pp. 239.

COFER, C. N., & MUSGRAVE, B. S., *Eds*. Verbal Behavior and Learning: Problems and Processes. New York: McGraw-Hill, 1963. Pp. 397.

COHEN, B. P. Conflict and Conformity: A Probability Model and Its Application. Cambridge: MIT Press, 1963. Pp. 186.

CRUICKSHANK, W. M., *Ed*. Psychology of Exceptional Children and Youth. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 623.

DeCecco, J. P. Human Learning in the School: Readings in Educational Psychology. New York: Holt, Rinehart & Winston, 1963. Pp. 636.

Delay, J. The Youth of André Gide. Chicago: Univ. Chicago Press, 1963. Pp. 489.

DeSmit, B. N. W. From Person into Patient: A Mental Health Study. The Hague: Mouton, 1963. Pp. 99.

Donington, R. Wagner's "Ring" and Its Symbols: The Music and the Myth. New York: St. Martin's Press, 1963. Pp. 325.

Dublin, L. I. Suicide: A Sociological and Statistical Study. New York: Ronald Press, 1963. Pp. 240.

Dudycha, G. J. Applied Psychology. New York: Ronald Press, 1963. Pp. 468.

Duhl, L. J., *Ed.* The Urban Condition: People and Policy in the Metropolis. New York: Basic Books, 1963. Pp. 410.

Dunn, L. M., *Ed.* Exceptional Children in the Schools. New York: Holt, Rinehart & Winston, 1963. Pp. 580.

Edelson, M. The Termination of Intensive Psychotherapy. Springfield, Ill.: Thomas, 1963. Pp. 84.

Eisenson, J., Auer, J. J., & Irwin, J. V. The Psychology of Communication. New York: Appleton-Century-Crofts, 1963. Pp. 394.

Ellis, A. If This Be Sexual Heresy. New York: Lyle Stuart, 1963. Pp. 253.

Faust, I. Entering Angel's World: A Student-Centered Casebook. New York: Teachers College, Columbia Univ., 1963. Pp. 146.

Feigl, H., & Maxwell, G., *Eds.* Current Issues in the Philosophy of Science. New York: Holt, Rinehart & Winston, 1961. Pp. 484.

Festinger, L., Schachter, S., & Back, K. Social Pressures in Informal Groups: A Study of Human Factors in Housing. Stanford, Calif.: Stanford Univ. Press, 1963. Pp. 197.

Feuer, L. S. The Scientific Intellectual: The Psychological and Sociological Origins of Modern Science. New York: Basic Books, 1963. Pp. 441.

Fingarette, H. The Self in Transformation: Psychoanalysis, Philosophy, and the Life of the Spirit. New York: Basic Books, 1963. Pp. 356.

Flavell, J. H. The Developmental Psychology of Jean Piaget. New York: Van Nostrand, 1963. Pp. 472.

Fogel, L. J. Biotechnology: Concepts and Applications. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 826.

Fraisse, P. The Psychology of Time. New York: Harper & Row, 1963. Pp. 343.

Frank, J. D. Persuasion and Healing: A Comparative Study of Psychotherapy. New York: Schocken, 1963. Pp. 292.

Freeman, H., & Farndale, J., *Eds.* Trends in the Mental Health Services: A Symposium of Original and Reprinted Papers. New York: Macmillan, 1963. Pp. 341.

Fry, E. B. Teaching Machines and Programmed Instruction: An Introduction. New York: McGraw-Hill, 1963. Pp. 244.

Gardner, E. Fundamentals of Neurology. Philadelphia: Saunders, 1963. Pp. 349.

Gellhorn, E., & Loofbourrow, G. N. Emotions and Emotional Disorders: A Neurophysiological Study. New York: Harper & Row, 1963. Pp. 496.

Gerathewohl, S. J. Principles of Bioastronautics. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 557.

Ginsburg, S. W. A Psychiatrist's Views on Social Issues. New York: Columbia Univ. Press, 1963. Pp. 296.

Goldstein, M. J., & Palmer, J. O. The Experience of Anxiety: A Casebook. New York: Oxford Univ. Press, 1963. Pp. 293.

Goslin, D. A. The Search for Ability: Standardized Testing in Social Perspective. New York: Russell Sage Foundation, 1963. Pp. 204.

Gray, S. W. The Psychologist in the Schools. New York: Holt, Rinehart & Winston, 1963. Pp. 406.

Greenacre, P. The Quest for the Father: A Study of the Darwin-Butler Controversy, as a Contribution to the Understanding of the Creative Individual. New York: International Univ. Press, 1963. Pp. 128.

GRINKER, R. R., & SPIEGEL, J. P. Men Under Stress. New York: McGraw-Hill, 1963. Pp. 484.
HAHN, M. E. Psychoevaluation: Adaptation—Distribution—Adjustment. New York: McGraw-Hill, 1963. Pp. 228.
HARRIS, A. J., *Ed.* Readings on Reading Instruction. New York: David McKay, 1963. Pp. 466.
HART, S. L. Ethics: The Quest for the Good Life. New York: Philosophical Library, 1963. Pp. 127.
HARVEY, O. J., *Ed.* Motivation and Social Interaction. New York: Ronald Press, 1963. Pp. 332.
HILL, W. F. Learning: A Survey of Psychological Interpretations. San Francisco: Chandler, 1963. Pp. 227.
HOFLING, C. K. Textbook of Psychiatry for Medical Practice. Philadelphia: Lippincott, 1963. Pp. 558.
HOWE, R. L. The Miracle of Dialogue. Greenwich, Conn.: Seabury Press, 1963. Pp. 154.
JACOBSON, E. Tension Control for Businessmen. New York: McGraw-Hill, 1963. Pp. 226.
JASPERS, K. General Psychopathology. Chicago: Univ. Chicago Press, 1963. Pp. 922.
JERSILD, A. T. The Psychology of Adolescence. New York: Macmillan, 1963. Pp. 468.
JOURARD, S. M. Personal Adjustment: An Approach Through the Study of Healthy Personality. New York: Macmillan, 1963. Pp. 477.
JUDD, D. B., & WYZECKI, G. Color in Business, Science, and Industry. New York: Wiley, 1963. Pp. 500.
KADIS, A. L., KRASNER, J. D., WINICK, C., & FOULKES, S. H. A Practicum of Group Psychotherapy. New York: Harper & Row, 1963. Pp. 195.
KIELL, N., *Ed.* Psychoanalysis, Psychology and Literature: A Bibliography. Madison: Univ. Wisconsin Press, 1963. Pp. 225.
KIMBLE, G. A., & GARMEZY, N. Principles of General Psychology. New York: Ronald Press, 1963. Pp. 655.
KUHLEN, R. G., & THOMPSON, G. G., *Eds.* Psychological Studies of Human Development. New York: Appleton-Century-Crofts, 1963. Pp. 638.
LEAVITT, H. J., *Ed.* The Social Science of Organizations. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 182.
LEVY, L. H. Psychological Interpretation. New York: Holt, Rinehart & Winston, 1963. Pp. 368.
LIEF, H. I., LIEF, V. F., & LIEF, N. R., *Eds.* The Psychological Basis of Medical Practice. New York: Harper & Row, 1963. Pp. 572.
MAGOUN, H. W. The Waking Brain. Springfield, Ill.: Thomas, 1963. Pp. 188.
MANDELBAUM, D. G., LASKER, G. W., & ALBERT, E. M., *Eds.* The Teaching of Anthropology. Berkeley: Univ. California Press, 1963. Pp. 611.
MANDELBAUM, D. G., LASKER, G. W., ALBERT, E. M., *Eds.* Resources for the Teaching of Anthropology. Berkeley: Univ. California Press, 1963. Pp. 316.
MASON, S. E., *Ed.* Signs, Signals and Symbols: A Presentation of a British Approach to Speech Pathology and Therapy. London: Methuen, 1963. Pp. 212.
MCGUIGAN, F. J. Biological Basis of Behavior. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 238.
MCGUIRE, J. W. Business and Society. New York: McGraw-Hill, 1963. Pp. 312.
MCLENNAN, H. Synaptic Transmission. Philadelphia: Saunders, 1963. Pp. 134.
MEDNICK, M. T., & MEDNICK, S. A., *Eds.* Research in Personality. New York: Holt, Rinehart & Winston, 1963. Pp. 627.
MICHAUX, H. Light Through Darkness. New York: Orion, 1963. Pp. 230.
MISHRA, R. S. The Textbook of Yoga Psychology: A New Translation and Interpretation of Patanjali's Yoga Sutras for Meaningful Application in All Modern Psychologic Disciplines. New York: Julian, 1963. Pp. 401.
MOORE, W. E. Man, Time and Society. New York: Wiley, 1963. Pp. 163.
NELSON, M. C. Paradigmatic Approaches to Psychoanalysis: Four Papers. New York: Stuyvestant Polyclinic, 1963. Pp. 68.

NIRENBERG, J. S. Getting Through to People. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 211.
PARAD, H. J., & MILLER, R. R., *Eds.* Ego-Oriented Casework: Problems and Perspectives. New York: Family Service Assoc. of America, 1963. Pp. 312.
PASSOW, A. H., *Ed.* Education in Depressed Areas. New York: Teachers College, Columbia Univ., 1963. Pp. 359.
PATTON, R. G., & GARDNER, L. I. Growth Failure in Maternal Deprivation. Springfield, Ill.: Thomas, 1963. Pp. 94.
PEATMAN, J. G. Introduction to Applied Statistics. New York: Harper & Row, 1963. Pp. 458.
PRAZAK, M. Language and Logic. New York: Philosophical Library, 1963. Pp. 154.
PRITCHARD, D. G. Education and the Handicapped: 1760-1960. New York: Humanities Press, 1963. Pp. 250.
PRONKO, N. H. Textbook of Abnormal Psychology. Baltimore: Williams & Wilkins, 1963. Pp. 446.
REIK, T. The Need To Be Loved. New York: Farrar, Straus, 1963. Pp. 276.
REMMERS, H. H., *Ed.* Anti-Democratic Attitudes in American Schools. Evanston, Ill.: Northwestern Univ. Press, 1963. Pp. 344.
ROSENBAUM, M., & BERGER, M., *Eds.* Group Psychotherapy and Group Function. New York: Basic Books, 1963. Pp. 690.
RUGG, H. Imagination. New York: Harper & Row, 1963. Pp. 361.
SAHAKIAN, W. S. Systems of Ethics and Value Theory. New York: Philosophical Library, 1963. Pp. 448.
SAYLES, L. R. Individualism and Big Business. New York: McGraw-Hill, 1963. Pp. 200.
STEKEL, W. Sadism and Masochism, Vol. I: The Psychology of Hatred and Cruelty. New York: Grove, 1963. Pp. 441.
STEIN, J. Maturity in Sex and Marriage. New York: Coward-McCann, 1963. Pp. 318.
TOMKINS, S. S., & MESSICK, S., *Eds.* Computer Simulation of Personality. New York: Wiley, 1963. Pp. 325.
VERDIER, P. A. Bio-Psychology: A Biological Approach to Human Motivation. New York: Exposition Press, 1963. Pp. 216.
WARREN, R. L. Social Research Consultation. New York: Russell Sage Foundation, 1963. Pp. 163.
WILSON, C. The Origins of the Sexual Impulse. New York: Putnam's, 1963. Pp. 263.
WITMER, H. L., HERZOG, E., WEINSTEIN, E. A., & SULLIVAN, M. E. Independent Adoptions: A Follow-Up Study. New York: Russell Sage Foundation, 1963. Pp. 463.
WOLSTEIN, B. Irrational Despair: An Examination of Existential Analysis. New York: Free Press of Glencoe, 1962. Pp. 200.
WRIGHT, J. C., & KAGAN, J. Basic Cognitive Processes in Children. Lafayette, Ind.: Social Science Research Council, Purdue Univ., 1963. Pp. 196.
YATES, A. J. Frustration and Conflict. New York: Wiley, 1962. Pp. 236.

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THE SOCIAL DESIRABILITY OF TRAIT-DESCRIPTIVE TERMS: APPLICATIONS TO A JAPANESE SAMPLE*

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A. INTRODUCTION AND PROBLEM

Since the demonstration by Edwards (9) that the probability of endorsement of personality-inventory items is highly correlated with the independently established social-desirability (S-D) values of the items, there has been a steadily increasing interest in the S-D variable as it relates to personality assessment. Principally, this interest has manifested itself in two directions: (*a*) study of the contaminating effects of S-D determinants on a variety of personality-content dimensions purportedly reflected in current inventories and (*b*) study of the S-D variable as an individual-difference-type measure in its own right, and in terms of how it may relate to other personality and behavioral variables (17, 24).

Several structural models have been developed in an attempt to study some of the principal parameters of the S-D phenomenon. Edwards and his co-workers (9, 10, 11, 12, 13, 15, 16, 18, 19, 20, 21, 22, 25) have worked with the personality-inventory item, whereas Cowen and his co-workers (1, 2, 3, 5, 6, 7, 8, 26, 27) have utilized the single trait-descriptive adjective as the unit of evaluation. Using both of these frameworks, a substantial pool of evidence has, by now, been developed suggesting that there is a high degree of constancy in the relative ordering of the S-D properties of inventory items or trait-descriptive adjectives across groups as diverse as high-school students (19), college students (1, 2, 6, 9, 10, 11), hospital medical patients (7), psychotics (7, 20, 21), alcoholics (27), sexual offenders (5), oldsters (8), and nuns (26). The same type of relative constancy has been demonstrated under varying instructional sets (1, 2, 6, 11) and contexts (4).

On the other hand, notwithstanding this relative constancy of ordering along the S-D continuum, it has also been possible to demonstrate systematic and significant differences in absolute S-D ratings among many of these same groups. Thus, there are group tendencies to rate extremely (2, 26) or cau-

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tiously (5, 27), to elevate ratings at all levels (8), toward homogeneity (26) or heterogeneity (7), etc. A summary of some of these constancies and diversities, at least with respect to studies based on the single-trait rating frame, has been presented elsewhere (3).

Despite what is now a fairly considerable body of literature on the S-D phenomenon within the American culture, we are at present lacking in systematic data bearing on other cultures. Questions having to do with cross-cultural constancies in relative S-D orderings of test items or trait-descriptive adjectives, or with absolute-rating differences across cultures, remain largely unanswered. Such information may be of considerable value in providing us with a fuller understanding of communalities and uniquenesses among differing cultural groups, with respect to this evaluative-type dimension.

Actually, there have been several cross-cultural S-D studies, each based upon personality-test items, which suggest that there is a substantial relationship in the S-D ratings of Nisei (14), Norwegian (23) and Near Eastern (22) students and those of American college samples. In the most recent and most extensive of these studies, that of Klett and Yaukey (22), an analysis was made of 140 personality-test items, classified in terms of 14 psychological needs, following which an attempt was made to characterize each of six groups (high-school students, college students, Norwegian students, Nisei students, Near East students and hospital patients) relative to all others with respect to their judgments of item S-D. A high degree of cross-group agreement was reported concerning socially desirable and undesirable behaviors.

Of particular interest for the present investigation is the fact that Fujita (14) has reported a .96 correlation between the S-D ratings of American and Japanese-American (Nisei) college students. It is, however, quite probable that Nisei *S*s are influenced by two cultures (perhaps more so by the American one) and have not been exposed to an "authentic and traditional" Japanese culture. In this sense, study of a native-born, resident, Japanese sample might provide a more appropriate basis for a cross-cultural comparison.

In the broadest sense, the purpose of this research is to probe the generality of S-D ratings transculturally. Utilizing the single-trait descriptive adjective as the basis for ratings (2), comparisons were made between the S-D stereotypes of an occidental (American) college group and an oriental (Japanese) one. The principal questions underlying the study are as follows: (*a*) What is the relationship between groups in S-D orderings? (*b*) What differences,

if any, are to be found between groups in their absolute S-D ratings as well as in intragroup rating variability?

B. Method

For purposes of the present investigation, a list of 209 trait-descriptive adjectives used by Cowen and his co-workers (2) was employed as the basis for obtaining S-D ratings from the Japanese *S*s. It was, of course, first necessary to translate these adjectives into Japanese. This translation was checked by five English-proficient Japanese (three English professors and two psychologists) and by one Japanese-proficient American. Sixty-one adjectives were eliminated from the original list because they were not considered to be adequately translatable into Japanese. Thus the list was reduced to 148 words, each of which was considered to have reasonable equivalence between English and Japanese. The translated list of 148 trait-descriptive terms was presented to 65 Japanese cadets in the introductory psychology course of the Japan Defense Academy. The mean age of subjects was 19, which is comparable to that of Cowen's college group. The procedure for obtaining the S-D ratings was identical to that used by Cowen for his "social" set (2), except, of course, for the translation of the instructions. That is, *S*s were asked to assume that each adjective completed the hypothetical frame "I am a (an) . . . . . person," and to rate the resultant propositions on a seven-point scale ranging from very desirable to very undesirable. The ratings were made from the frame of reference of people in general. The American sample containing 39 male college students as described elsewhere (2) was used as a comparison group.

C. Results and Discussion

For each of the 148 adjectives, separate means and variances were computed for the Japanese sample, based on the ratings given under the social set. The mean S-D ratings of the Japanese sample were intercorrelated with those of the American male college-students group.[1] The obtained Pearson r of .895 is somewhat lower than those reported by the Rochester group (3); nevertheless it remains substantial. Conceivably, some inaccuracies and im-

[1] A five-page table presenting means and variances for American and Japanese groups, together with significant differences in means (t ratios) and variances (F ratios) between Americans and Japanese, has been deposited as Document number 7899 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the Document number and by remitting $1.25 for photoprints, or $1.25 for 35-mm microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

perfections in translation may result in a slight underestimation of the true relationship. Basically, however, it seems clear that young American and Japanese males have S-D stereotypes which are highly comparable in terms of relative ordering of trait-descriptive terms. This may suggest an overall transcultural consistency in terms of what we perceive to be good and bad.

Beyond this correlational analysis, absolute differences between mean S-D ratings for the two groups were tested first by a series of 148 individual adjective *t* ratios. Significant cultural differences in mean S-D level at .05 or beyond were observed for 100 of the 148 adjectives. For the 46 positive adjectives with significant cultural differences, Americans had higher ratings on 35, while for the 34 negative adjectives with significant cultural differences, Americans had lower ratings on 26. Additionally, a nonparametric analysis of the type used previously by Cowen (2) was carried out with respect to *directional* differences in mean S-D ratings across the two cultural groups. Combined group means were used to fix overall S-D level as positive ($\text{Mean}_{\text{S-D}}$ 7-5), neutral ($\text{Mean}_{\text{S-D}}$ 5-3), or negative ($\text{Mean}_{\text{S-D}}$ 3-1), and for each adjective a tally was made to indicate which group had the higher mean S-D rating. The results of this analysis are summarized in Table 1. It can

TABLE 1
RELATIONSHIP BETWEEN MEAN LEVEL OF S-D AND DIRECTION OF MEAN CULTURAL DIFFERENCES

Direction	Mean level			Total
	7-5	5-3	3-1	
Japanese higher	19	10	33	62
American higher	50	23	13	86
Total	69	33	46	148

Note: $\chi^2 = 25.74$ $(p > .001)$.

be seen that there is a marked tendency for the American sample to rate more extremely at both ends of the S-D continuum (i.e., higher rating of positive adjectives and lower ratings of negative adjectives) than does the Japanese sample. The same trend may also be observed for each of the *extreme* category levels (i.e., 6-7 and 1-2). Japanese *S*s rated higher 12 times for adjectives with means between 6 and 7, and eight times for adjectives with means between 1 and 2; the comparable figures for American *S*s were 34 and 20.

Given the fact that there appears to be a style of response which, in the absolute sense, differentiates Japanese and American *S*s, it may be especially instructive to examine individual instances which run counter to the basic

pattern. Illustratively, despite the fact that American *Ss* give more extreme mean S-D ratings than do Japanese *Ss*, the Japanese rate certain positive adjectives (e.g., *civil, cordial, deliberate, discrete, intellectual, obedient, refined, unassuming*) significantly higher than do Americans, and rate certain negative adjectives (e.g., *crafty, fearful, frivolous, hesitant, changeable*) as significantly lower. Furthermore, it is perhaps suggestive that Japanese rate such neutral adjectives as *defensive, cautious,* and *formal* significantly higher and *fashionable, expressive, outspoken,* and *sexy* significantly lower. One observation which may be offered in explanation of these ostensible "reversals" is that Americans tend to favor adjectives implying frankness and impulsivity in rating behavior as contrasted to the Japanese who favor ones which indicate that they may be more suppressive, cautious, and meticulous.[2]

Differences in variability of S-D ratings between Americans and Japanese were first tested by means of F ratios. Significant cultural differences at p .05 or beyond were found in 43 of the 148 comparisons. For the 43 adjectives which yielded significant F ratios, Americans had more variable ratings on 36. For all 12 neutral adjectives with significant differences, Americans had more variable ratings. Again a nonparametric directional comparison of variability between Americans and Japanese for all 148 adjectives was carried out. The results of this analysis are summarized in Table 2. Overall, the American sample is more variable. This is true at all levels, despite the fact that Americans use more extreme ratings which would operate to reduce variability. The difference is clearest in the neutral mean range of 3 to 5 where the groups would have an equal chance to be variable or nonvariable. Because (from among the numerous male groups studied by Cowen and his co-workers) college males have been found *least* variable, we may conclude that our

---

[2] A factor which limits generalization from this study inheres in the composition of the two samples. Although we are concerned primarily with comparison of S-D stereotypes of male Japanese and American *collegians*, a question may legitimately be raised as to how representative the institutions from which our *Ss* were drawn are of college groups in their respective countries, particularly so for the Japanese sample (taken from the Japan Defense Academy). It is thus conceivable that a variable involving attitudes of military-academy vs. arts-college students is incidentally being tapped. Since higher educational institutions in Japan tend to be more "specialized" than those in the United States, the notion of a "typical" college is less meaningful there than it is in this country. At this point we can observe only that the curriculum at the Defense Academy is heavily saturated with liberal-arts courses. Additionally, empirical comparisons of Defense Academy students with those of other higher education institutions on a variety of inventory measures have generally demonstrated similarity and overlap rather than group differences. Ultimately, however, the matter should be resolved empirically by direct comparison of S-D stereotypes of Defense Academy and other Japanese college students. Work along these lines is currently being undertaken by the senior author.

TABLE 2
DIRECTIONAL DIFFERENCES IN VARIABILITY BETWEEN AMERICAN AND JAPANESE SAMPLES

Direction	Mean level			Total
	7-5	5-3	3-1	
Japanese higher	28	8	16	52
American higher	41	25	30	96
Total	69	33	46	148

Note: $\chi^2 = 13.08$ ($p > .005$).

Japanese sample was remarkably homogeneous in its perception of S-D. Evidently, for this sample there is a very high degree of uniformity concerning the evaluation of trait-descriptive adjectives.

D. SUMMARY

A sample of 65 Japanese cadets rated 148 trait-descriptive adjectives (translated from English into Japanese) on a seven-point social-desirability (S-D) continuum. Their responses were compared to those of a group of American college males. The Japanese group's *relative* ordering of perceived S-D was highly similar to that of the American group. With respect to mean level of S-D ratings, the Japanese were found to use significantly less extreme S-D ratings than did Americans. A comparison of rating variability across two culture groups demonstrated that the Americans were significantly more variable than the Japanese.

REFERENCES

1. COOPER, A., & COWEN, E. L. The social desirability of trait descriptive terms: A study of feeling reactions to adjective descriptions. *J. Soc. Psychol.*, 1962, **56**, 207-215.
2. COWEN, E. L. The social desirability of trait descriptive terms: Preliminary norms and sex differences. *J. Soc. Psychol.*, 1961, **53**, 225-233.
3. ———. La variable "désirabilité sociale" dans l'étude de la personnalité. *Rev. psychol. franc.*, 1963, **8**, 1-15.
4. COWEN, E. L., & STILLER, A. The social desirability of trait descriptive terms: Order and context effects. *Can. J. Psychol.*, 1959, **57**, 33-38.
5. COWEN, E. L., & STRICKER, G. The social desirability of trait descriptive terms: A sample of sexual offenders. *J. Soc. Psychol.*, 1963, **59**, 307-315.
6. COWEN, E. L., BUDIN, W., & BUDIN, F. A. The social desirability of trait descriptive terms: A variation in instructional set. *J. Soc. Psychol.*, 1961, **53**, 317-323.
7. COWEN, E. L., STAIMAN, M. G., & WOLITZKY, D. L. The social desirability of trait descriptive terms: Applications to a schizophrenic sample. *J. Soc. Psychol.*, 1961, **54**, 37-45.
8. COWEN, E. L., DAVOL, S., REIMANIS, G., & STILLER, A. The social desirability of trait descriptive terms: Two geriatric samples. *J. Soc. Psychol.*, 1962, **56**, 217-225.

9. EDWARDS, A. L. The relation of judged desirability of a trait and the probability that the trait will be endorsed. *J. Appl. Psychol.*, 1953, **37**, 90-93.

10. ———. The Social Desirability Variable in Personality Assessment and Research. New York: Dryden Press, 1957.

11. ———. Social desirability and the probability of endorsement of items in the Interpersonal Check List. *J. Abn. & Soc. Psychol.*, 1957, **55**, 394-395.

12. EDWARDS, A. L. Social desirability and personality test construction. In B. M. Bass & I. A. Berg (Eds.), *Objective Approaches to Personality Assessment*. Princeton, N.J.: Van Nostrand, 1959.

13. FORDYCE, W. E. Social desirability in the MMPI. *J. Consult. Psychol.*, 1956, **20**, 171-175.

14. FUJITA, B. Applicability of the Edwards Personal Preference Schedule to Nisei. *Psychol. Rep.*, 1957, **3**, 518-519.

15. HANLEY, C. Social desirability and responses to items from three MMPI scales: D, Sc, and K. *J. Appl. Psychol.*, 1956, **40**, 324-328.

16. ———. Deriving a measure of test taking defensiveness. *J. Consult. Psychol.*, 1957, **21**, 391-397.

17. JACKSON, D. M., & MESSICK, S. Content and style in personality assessment. *Psychol. Bull.*, 1958, **55**, 243-252.

18. KLETT, C. J. The stability of social desirability scale values in the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1956, **20**, 315-319.

19. ———. The performance of high school students on the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1957, **21**, 68-72.

20. ———. The social desirability stereotype in a hospital population. *J. Consult. Psychol.*, 1957, **21**, 419-421.

21. KLETT, C. J., & TAMKIN, A. S. The social desirability stereotype and some measures of psychopathology. *J. Consult. Psychol.*, 1957, **21**, 450.

22. KLETT, C. J., & YAUKEY, D. N. A cross-cultural comparison of judgments of social desirability. *J. Soc. Psychol.*, 1959, **49**, 19-26.

23. LOVAAS, O. I. Social desirability ratings of personality variables by Norwegian and American college students. *J. Abn. & Soc. Psychol.*, 1958, **57**, 124.

24. MCGEE, R. K. Response style as a personality variable: By what criterion? *Psychol. Bull.*, 1962, **59**, 284-295.

25. NAVRAN, L., & STAUFFACHER, J. C. Social desirability as a factor in the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1954, **18**, 442.

26. ZAX, M., COWEN, E. L., & PETER, S. M. A comparative study of novice nuns and college females using the response set approach. *J. Abn. & Soc. Psychol.*, 1963, **66**, 369-375.

27. ZAX, M., COWEN, E. L., BUDIN, W., & BIGGS, C. F. The social desirability of trait descriptive terms: Applications to an alcoholic sample. *J. Soc. Psychol.*, 1962, **56**, 21-27.

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THE SOCIAL DESIRABILITY OF TRAIT-DESCRIPTIVE TERMS: FURTHER APPLICATIONS TO A JAPANESE SAMPLE UNDER A PERSONAL SET*

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A. INTRODUCTION AND PROBLEM

In a previous paper (9) comparisons of social-desirability (S-D) ratings, made from the frame of reference of people in general (i.e., the "social" set) by male, college-age Japanese and American *S*s, have been presented. In that study it was shown that, although there was a high degree of consistency in the relative ordering of S-D perceptions across groups, American *S*s were significantly more extreme and more variable in their ratings than were their Japanese counterparts.

The decision to utilize the social set as the rating frame both in Cowen's original work (3) as well as in the Japanese cross-cultural comparison (9) was a highly arbitrary one. Indeed, from the larger body of literature, somewhat discrepant findings have been reported with respect to the effects of variations in instructional set upon S-D ratings. Several investigations (1, 5, 12) have reported that differing instructional sets produce substantial rating differences. Illustratively, Rosen (12) found rather low correlations for S-D ratings of MMPI items made under a social and personal set by college *S*s. Other investigations (7, 8), however, report the opposite—i.e., a very high degree of relationship among S-D ratings across diverse sets. For example, Goodstein and Heilbrunn (7) found a .90 correlation between "personal" and "social" desirability ratings of personality-test items. It is difficult to know whether such discrepant findings reflect true differences in rating sets, or whether they may, at least in part, result from differences in testing conditions, content, etc. In the Rosen study (12), for example, the *same S*s did *both* sets of ratings and it is conceivable that the low obtained cross-set intercorrelations reflect an internal contrasting process in the respondent.

Utilizing the single trait-descriptive adjective as the basis for all ratings, the Rochester group (2, 3, 4) has undertaken systematically to examine the

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effects of changes in instructional set on S-D ratings. Three sets—the "social" (3), "personal" (4), and "feeling" (2)—have been studied thus far, using 209 trait-descriptive adjectives evaluated on a seven-point S-D continuum. A minimum cross-set intercorrelation in the high .90s indicates a marked degree of stability in the *relative* S-D ordering of trait-descriptive adjectives under the specified rating conditions. Additionally (now speaking in the *absolute* sense), for *each* instructional set, females gave significantly more extreme S-D ratings while males were significantly more variable. Concurrently, however, certain absolute differences in the three sets were demonstrated. Thus, the personal set yielded less extreme ratings than did either the social or the feeling set, while the feeling set produced significantly more variable ratings than did either of the other two sets.

The foregoing cross-set findings are limited by the fact that they reflect the perceptions of a highly homogeneous sample (undergraduates at the University of Rochester). A more stringent test of the generality of rating-frame similarities might be obtained by a cross-cultural, cross-set comparison. To date, cross-cultural S-D comparisons involving Nisei (6), Near East (10), Norwegian (11) and native-born and raised Japanese (9) have been based, predominantly, on the respondent's judgments of propositions or personality-test items with respect to the values of his own culture. Hence, these investigations have not gone beyond an implicit "social" set.

The broad purpose of the present investigation is to extend the prior comparison of S-D stereotypes of American and Japanese *S*s, probing the generality of earlier findings through the introduction of the *personal* set. More specifically, the basic problems of this study may be summarized as follows: (*a*) What is the degree of relationship between personal- and social-set ratings for Japanese *S*s? (*b*) What absolute differences, if any, are to be found in the ratings of Japanese *S*s obtained under the personal and the social sets? (*c*) What is the degree of relationship between the personal-set ratings of American and Japanese *S*s? (*d*) What absolute differences, if any, are to be found in the personal-set ratings of American and Japanese *S*s?

B. Method

The original American S-D studies (2, 3, 4) were based on a list of 209 trait-descriptive adjectives. However, in work with Japanese *S*s (9), it proved necessary to reduce the list to 148 items due to translation problems. In this study, the abbreviated 148-item list was again used. The procedure for obtaining the personal-set ratings was identical to that used by Cowen, Budin, and Budin (4) except for the fact of translation of adjectives and instructions.

That is, respondents were asked to assume that each adjective completed the hypothetical frame "I am . . . . . person," and to rate the resultant proposition on a seven-point scale of *personal* desirability. In contrast to the framework of people in general, *S*s were here asked to rate each adjective in terms of "*how you personally regard the particular characteristic.*"

The Japanese *S*s in the present study consisted of a group of 65 Japanese cadets, directly comparable demographically to those used in the earlier cross-cultural study (9) as well as to the American *S*s used in the "personal" set study (4). The latter sample of 39 male college students (4) was used as the basis for the several cross-cultural comparisons.

C. Results and Discussion

1. *General Nature of the Data Analyses*

For each of the 148 adjectives, separate means and variances were computed for the Japanese sample, based on the seven-point ratings given under the personal set.[1] First, a set of Japanese norms based on this instructional set was developed. Next, across-set comparisons, within Japanese groups, contrasting data obtained under the personal set with similar data from the previous framework (social set), were carried out. Finally, cultural differences in personal-set ratings of trait-descriptive adjectives were analyzed both parametrically and nonparametrically.

2. *Across-Set Findings*

The mean S-D ratings of Japanese *S*s for the two sets (based on 148 adjectives) correlate .973 with each other. This same correlation based on 209 adjectives for American *S*s was .981 (4). The latter r was recomputed using only the 148 adjectives employed with Japanese *S*s. The resultant r was .979. It seems evident from these findings that the relative ordering of trait-descriptive adjectives across sets is extremely constant both for the Americans and for the Japanese.

Beyond this correlational analysis, differences in S-D means between the personal and the social sets were tested individually for all 148 adjectives by means of t ratios, separately within each of two samples. For the Japanese

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[1] A seven-page table presenting means and variances under two sets for American and Japanese groups, together with significant differences in means (t ratios) and variances (F ratios) between Americans and Japanese, has been deposited as Document number 7898 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the Document number and by remitting $1.25 for photoprints, or $1.25 for 35-mm microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

group, significant set differences in mean S-D ratings at the .05 level were observed for 53 of the 148 adjectives. In the American sample, the comparable number of significant differences was 28, the difference between these figures itself being significant at $p > .01$. There is some suggestion in this datum that the change in instructional set may have had a greater effect on the Japanese *S*s than on the American *S*s. Patternwise, significant set differences in the American sample were largely due to higher ratings of positive adjectives and lower ratings of negative adjectives under the social set. This was true to a lesser extent in the Japanese sample, where a higher proportion (16 of 58) of the significant set differences occurred with neutral adjectives. This latter may be a reflection of a rating tendency of Japanese *S*s to use less extreme S-D ratings than do the Americans (*cf.* below).

A nonparametric analysis following a model used elsewhere (2, 3, 4, 9) was undertaken to determine whether, apart from these significant set differences, the overall patterning of mean desirability ratings was different for the two instructional sets. The results of these analyses for the American and the

TABLE 1
RELATIONSHIP BETWEEN MEAN LEVEL OF DESIRABILITY AND DIRECTION OF MEAN SET DIFFERENCES

Direction	Mean level 7-5	5-3	3-1	Total
	(A) American sample			
Personal set higher	12	24	38	74
Social set higher	43	14	12	69
Total	55	38	50	143*
	(B) Japanese sample			
Personal set higher	10	30	35	75
Social set higher	43	21	8	72
Total	53	51	43	147**

* Mean S-D levels were identical for five adjectives. $\chi^2 = 31.37$, $p > .001$.
** Mean S-D levels were identical for one adjective. $\chi^2 = 39.05$, $p > .001$.

Japanese males groups are summarized in Table 1. Consistent with the findings of Cowen, Budin, and Budin (4), it is clear that despite the very high correlation across the two sets, the social set yields much more extreme ratings (i.e., positive adjectives are rated higher and negative adjectives are rated lower) than does the personal set, for both samples. Although Japanese *S*s gave more neutral ratings than Americans in the absolute sense, the social set stands in the same relationship to the personal set in both groups. Indeed, the similarity of the two patterns is striking, in the light of presumed differences between occidental and oriental cultures.

Next, a comparison of total group rating variability across the two in-

structional sets was done by determining significant cross-set variance (F) ratios for individual adjectives. There were 30 such significant differences for the Americans and 22 for the Japanese, out of 148 F tests in each case. In 23 of the 30 cases and 20 of 22 cases respectively for the two samples, the personal set was more variable than the social set. Once again a nonparametric test of directionality of S-D variability across sets was undertaken. The results of this procedure are summarized in Table 2. Overall, both samples showed significantly greater variability under the personal set. For the Americans this

TABLE 2
DIRECTIONAL DIFFERENCES IN VARIABILITY BETWEEN THE PERSONAL AND THE SOCIAL SET

Direction	Mean level 7-5	5-3	3-1	Total
	(A) American sample			
Personal set more variable	42	19	40	101
Social set more variable	13	21	11	45
Total	55	40	51	146*
	(B) Japanese sample			
Personal set more variable	38	34	33	105
Social set more variable	15	16	10	41
Total	53	50	43	146*

* Variability values across sets were identical for two adjectives. (A) $x^2 = 19.97$, $p > .001$. (B) $x^2 = 28.05$, $p > .001$.

is due primarily to greater variability at the extremes, which may, in part, be an artifact of the less extreme ratings given under the personal set. For the Japanese, however, greater variability of the personal-set ratings occurs at all mean levels, including the neutral middle range where such a statistical artifact is ruled out. It is thus clearer for the Japanese than for the Americans that greater variability of the personal set in comparison to the social set reflects a genuine set difference.

3. *Personal Set: Culture Differences*

Mean S-D ratings of American and Japanese *S*s were correlated for the 148 adjectives common to both groups. The resulting Pearson r of .874, although somewhat lower than those reported by the Rochester group, is quite comparable to the r between American and Japanese S-D ratings in the prior study based on the "social" set (9). Differences between the mean S-D ratings of Americans and Japanese were individually tested for all 148 adjectives by means of t ratios. For 84 of the 148 adjectives, significant cultural differences in the mean desirability level (at $p = .05$ or beyond) were observed. For the 22 positive adjectives with significant differences, Americans had higher ratings on

20, while for the 33 negative adjectives with significant differences, Japanese had higher ratings on 23.

Apart from these significant parametric differences, a nonparametric analysis was undertaken with respect to *directional* differences in mean personal-set ratings across the two cultural groups. The results of this procedure are summarized in Table 3. Thus, American *S*s, under the personal set, are significantly more extreme in their ratings than are the Japanese. The same thing was true at an even stronger level in the prior investigation using the social set as the rating frame (9).

TABLE 3
RELATIONSHIP BETWEEN MEAN LEVEL OF DESIRABILITY UNDER THE PERSONAL SET AND DIRECTION OF THE MEAN CULTURAL DIFFERENCES

Direction	Mean level 7-5	5-3	3-1	Total
Americans higher	35	32	20	87
Japanese higher	12	15	34	61
Total	47	47	54	148*

* $\chi^2 = 17.05$, $p > .001$.

To summarize the findings to this point, it appears that there is a very substantial agreement in the relative ordering of S-D ratings across sets for both groups and across groups for both sets. In the absolute sense, Americans (as compared to Japanese) rate positive adjectives more positively and negative ones more negatively, no matter which set is used. Thus, while there is a constant displacement of ratings across cultures, within that framework what is true for one is generally true for the other as well.

Next, variability comparisons of Japanese and American ratings for the personal set were carried out by means of *F* ratios for all 148 adjectives. A total of 38 significant differences were found, with the Americans showing the greater variability on 25 of those comparisons. These differences in variability, though substantial, are less sharp than those reported in the social-set study (9).

To extend this parametric analysis, a nonparametric directional comparison of variability of personal-set ratings across the two cultural samples was carried out. These results are summarized in Table 4. Overall, Americans are significantly more variable due primarily to greater variability on neutral and negative adjectives. The latter is true despite the fact that the more extreme ratings that American *S*s give on negative adjectives operate to restrict variability. In the neutral range, no such constraint exists. Thus, it appears that Americans are genuinely more variable than Japanese in their S-D

TABLE 4
DIRECTIONAL DIFFERENCES IN VARIABILITY BETWEEN AMERICAN AND JAPANESE SAMPLES

Direction	Mean level 7-5	5-3	3-1	Total
Americans more variable	22	31	36	89
Japanese more variable	25	16	18	59
Total	47	47	54	148*

* $\chi^2 = 6.08$, $p > .05$.

ratings under the personal set. Once again, however, we may note that this same cross-cultural difference in variability appeared in even sharper form in the prior social-set comparison of American and Japanese *S*s (9).

Collectively, these findings may suggest that the personal value system of the younger Japanese generation (as reflected in their "personal" set ratings) is somewhat closer to the American norm than is perception of their more traditional cultural heritage (as might, more probably, be reflected in their "social" set ratings). It follows that the "social" set is likely to produce a sharper picture of cultural differences than the "personal" set.

Quite beyond the consistent absolute differences in S-D ratings demonstrated (both in this study and the preceding one) between American and Japanese *S*s, it would be of some interest to determine empirically whether less extreme and less variable judgment represent a more generalized response style which characterizes the rating behavior of Japanese respondents in a wide variety of judgment situations.

D. SUMMARY

The present investigation presents cross-cultural data based on S-D ratings of college-age American and Japanese males made under a "personal" rating set. It extends a prior, structurally similar, study using a "social" rating set. Sixty-five Japanese cadets, comparable to the previous sample, rated the same 148 adjectives used in the earlier study, with only the rating frame changed. Their responses were compared to those obtained from the Japanese sample under the social set as well as to the "personal" set ratings of 39 American college males.

Intercorrelations between S-D ratings obtained under the two instructional sets were in the high nineties for both the American and the Japanese samples. Thus, the relative ordering of trait-descriptive terms is highly constant for the two cultural groups. The "social" set was found to yield more extreme ratings while the "personal" set produced more variable ratings in both the American and the Japanese groups. The relationship between the personal and the social sets is thus remarkably similar within both cultural groups.

With respect to direct cross-cultural comparisons, a very high correlation was found between the "personal" set ratings of American and Japanese *S*s. This datum repeats what has already been demonstrated for the social set, thus confirming the notion of a marked constancy in the *relative* ordering of S-D stereotypes across the two cultural groups and is consistent with the results of the earlier cross-cultural "social" set study. Despite the foregoing facts, Japanese *S*s were found, under the personal set, to use significantly less extreme S-D ratings in the absolute sense than did Americans, while the Americans were found to be more variable in their S-D ratings.

References

1. Borislow, B. The Edwards Personal Preference Schedule and fakability. *J. Appl. Psychol.*, 1958, **42**, 22-27.
2. Cooper, A., & Cowen, E. L. The social desirability of trait descriptive terms: A study of feeling reactions to adjective descriptions. *J. Soc. Psychol.*, 1962, **56**, 207-215.
3. Cowen, E. L. The social desirability of trait descriptive terms: Preliminary norms and sex differences. *J. Soc. Psychol.*, 1961, **53**, 225-233.
4. Cowen, E. L., Budin, W., & Budin, F. A. The social desirability of trait descriptive terms: A variation in instructional set. *J. Soc. Psychol.*, 1961, **53**, 317-323.
5. DeSoto, C. B., Kuethe, J. L., & Bosley, J. J. A redefinition of social desirability. *J. Abn. & Soc. Psychol.*, 1958, **58**, 273-275.
6. Fujita, B. Applicability of the Edwards Personal Preference Schedule to Nisei. *Psychol. Rep.*, 1957, **3**, 518-519.
7. Goodstein, L. D., & Heilbrunn, A. B. The relationship between personal and social desirability scale values of the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1959, **23**, 183.
8. Heilbrunn, A. B., & Goodstein, L. D. The relationships between individually defined and group defined social desirability and performance on the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1961, **25**, 200-204.
9. Iwawaki, S., & Cowen, E. L. The social desirability of trait-descriptive terms: Applications to a Japanese sample. *J. Soc. Psychol.*, 1964, **63**, 199-205.
10. Klett, C. J., & Yaukey, D. N. A cross-cultural comparison of judgments of social desirability. *J. Soc. Psychol.*, 1959, **49**, 19-26.
11. Lovaas, O. I. Social desirability ratings of personality variables by Norwegian and American college students. *J. Abn. & Soc. Psychol.*, 1958, **57**, 124.
12. Rosen, E. Self appraisal, personal desirability and perceived social desirability of personality traits. *J. Abn. & Soc. Psychol.*, 1956, **52**, 151-158.

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INTER- AND INTRAGENERATIONAL DIFFERENCES IN MATERNAL ATTITUDES TOWARDS CHILD REARING*

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A common complaint among youngsters is that older people do not understand them. The same story, with a few minor variations, can be heard from the older generation with respect to the younger. Interestingly enough, novels and movies depicting such conflicts are often popular across national and cultural boundaries, thus hinting at the universality of such incongruencies. Although such conflicts usually refer to teenagers and their parents, the same discrepancies are probably found between adults and their parents. However, little empirical evidence is available documenting this position.

The purpose of this study is to provide such empirical evidence by exploring attitudes on child rearing between (inter) generation and within (intra) generations. Specifically, this research was designed to investigate and compare maternal attitudes on child rearing held by two generations of Japanese women in the United States and two generations of Japanese Women in Japan. Such a study would provide three basic comparisons: (*a*) differences in intragenerational parental attitudes of Japanese in Japan; (*b*) differences in intragenerational parental attitudes of Japanese in the United States; and (*c*) differences in intergenerational parental attitudes of Japanese in the United States and those in Japan.

No assumption was made about the relationship between attitudes and behavior.

A. METHODOLOGY

The Parental Attitude Research Inventory (PARI) (4) was given to a Japanese sample of 24 younger females between the ages of 30 to 40 (Group A) and 26 females between the ages of 50 to 80 (Group B). The Japanese sample was drawn to approximate the age, sex, marital status, and occupation of similar groups in the United States. The group in the United

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States (Groups C and D) was drawn from a previous study by the author (2).

The Japanese-American sample consisted primarily of housewives whose husbands were employed in gardening and small business; the husbands of the Japanese sample were engaged primarily in small business and civil-service occupations. There is some difficulty in translating the meaning of occupation as a class variable from culture to culture, but a rough approximation of groups in terms of social class appears to have been achieved. There may also be an overlap of generations among the younger members of the older group and the older members of the younger group, but, in general, it appears that our sample represents two generations. The method of selecting the Japanese sample was left to the judgment of the author's contacts in Japan. The criterion was one of availability rather than of randomness.

B. Results

The results of the study are presented in Table 1. Because our primary interest lay in the overall scores, only cumulative figures are presented. Higher scores on the PARI are assumed to represent more restrictive attitudes.

TABLE 1
Mean Difference and Standard Deviation Scores of Attitudes Between Generations in Japan and the United States on the PARI

Groups	*N*	Mean	*SD*
A (30 to 40 years, Japan)	24	14.1	2.1
B (50 to 80 years, Japan)	26	16.0	2.2
C (30 to 40 years, U. S.)	43	12.9	3.8
D (50 to 75 years, U. S.)	26	16.9	2.4

As can be seen, the highest mean scores were those of the older Japanese-Americans (Group D), followed by the older group in Japan (Group B). The lowest scores were attained by the younger Japanese, Nisei (Group C), in the United States.

Mean differences between groups were analyzed through the use of a *t* test (see Table 2). Comparisons between Groups A and B, or successive

TABLE 2
Significant Mean Differences on the PARI Among Groups A, B, C and D

Groups	*p*
1. A (30 to 40 years, Japan) and B (50 to 80 years, Japan)	.05
2. C (30 to 40 years, U. S.) and D (50 to 75 years, U. S.)	.01
3. A and C	NS
4. B and D	NS

generations in Japan, resulted in a *t* of 2.9, significant at the .05 level. Comparisons between Groups C and D, or successive generations of Japanese in the United States, resulted in a *t* of 4.9, significant at the .01 level. Comparisons between the same age groups in Japan and the United States (Groups A and D, Groups B and D) showed no significant differences.

For those interested in specific dimensions on the PARI, the following items and their descriptions showed large mean differences between age groups in Japan (Groups A and B): 2—fostering dependency, 3—seclusion of mother, 5—martyrdom, 8—strictness, 10—excluding outside influence, and 18—suppression of sex.

The findings indicate significant differences in maternal attitudes between the older and the younger groups in Japan and between these generations in the United States. Intergroup comparisons of the same age groups across national lines showed no significant differences. Thus, it appears that similar age groups have more congruent attitudes than successive generations, even across national boundary lines, while successive generations, even within the same country, show some differences of attitudes.

C. Analysis and Discussion

Our initial concept to be explored was that of social isolation. From the very beginning of immigration to the United States in the early 1900s, the Issei (Group D) were isolated from the larger American community through segregation and ghetto living. Very few attended schools in the United States, most never mastered the English language and, even today, the great majority of those Issei still living retain the manners and behaviors of old Japan. Japanese visitors have remarked to us that the attitudes of the Issei are somewhat reminiscent of the Meiji era of Japanese history (late 1800s). On the other hand, Issei who have recently been to Japan express surprise at the vast social changes in Japan. These remarks are not very surprising because most Issei have been in the United States for well over forty years and are not prepared for the drastic changes in their mother country. Therefore, in comparing parental attitudes of the Issei (Group D) with a similar age group in Japan (Group B), we expected to find significant differences. If the restrictive dimension of the PARI (higher scores) can be considered more old-fashioned, we hypothesized that the Issei would hold the most restrictive attitudes. Although their scores were the highest, the nonsignificant differences between this group and their age-counterparts in Japan lead to an acceptance of the null hypothesis. At least for this study, it appears that both groups are drawn from the same population as measured by the PARI.

Moreover, we expected to find significant differences between the younger Japanese in the United States and those in Japan (Groups B and D). We hypothesized that educational and learning differences between these groups brought up in different countries under different conditions would have differentially influenced the attitudes toward child rearing. The nonsignificant differences between these groups led to the acceptance of the null hypothesis.

There are several possible explanations for the unexpected findings of this exploratory study. The sample and the test itself are possible sources for error. Another explanation might be the rapid "Americanization" of Japan, so that the observed similarities truly reflect the changes in Japan towards more American attitudes. Behavioral evidence in newspaper reports indicates extremely rapid cultural, social, and technological changes in Japan, especially since the American occupation.

D. Conflicts Between Generations

The most meaningful explanation for the observed differences appears to lie in the area of intergenerational conflict. Ortega y Gasset feels that the concept of the generation is the most important one in the whole of history. He points out that the 20-, the 40-, and the 60-year-old create three different styles of life which are blended into one historical period, so that although lodged together in a single fragment of time, they are essentially three different groups. He calls this history's anachronism. The occurrence of "youth problems" and rebellions throughout the world suggests that the gap is universally enlarging. The rapid technological and social changes affecting all mankind seem to have created a universally shared sense that the past experience of older generations is an increasingly unreliable guide for young people in their efforts to work out the future (3).

Our findings support the generalization of intergenerational conflict in the specific area of child rearing. What we are measuring are generational norms and the fact that age groups, even across national boundary lines, are more similar in attitude than they are when the comparison is made with fellow countrymen from a different generation. These differences are perhaps functional differences related to the structure and the role of age-generation.

Open to speculation is the entire subject of the possible ramifications of these role differences and similarities if we find that generations across national lines are more likely to hold similar attitudes than are successive generations representing a single country. It might mean that understanding between groups and nations in terms of similar attitudes might be more readily accomplished through similar age-generational groups. Conversely a leader who is

a member of a younger generation might have more difficulty in communicating with a leader who not only represents a different country but also a different generation.

There is impressionistic evidence for this point of view. The older generation of Japanese in the United States and Japan are both concerned about the behavior of the younger generations. The adoration of movie stars, the fads, and the distinctive dress appear to be closely linked to the teen-ager, and the appeal crosses over national boundaries. It may well be that the teen-ager in Japan is more closely allied with the attitudes of his generational partner across the Pacific than with his own parents or grandparents. And the same is probably true for the parent.

The study was also designed to provide a preliminary exploration of the feasibility of analyzing the attitudes of a country through a study of its emigrants. Benedict (1) based her generalizations about the Japanese during World War II upon a study of the Japanese in the United States. Obviously, the population in Japan was unavailable to her at the time of her study. Because we studied a specific area of attitudes, generalizations to other variables cannot be drawn. However, this study does point to the conclusion that an analysis of maternal attitudes of Japanese-Americans towards child rearing would have led to accurate explanations of similar age-sex group attitudes in Japan.

E. Summary and Conclusions

This study attempted to compare child-rearing attitudes between generations in the same country and also to compare the same attitudes between generations across national boundaries. The findings indicate significant discrepancies between age-generation groups from the same country and non-significant differences between age-generation groups across national boundary lines. This led to the explanation that age-generation groups have relatively similar attitudes which may be a product of possible common-role positions which transcend boundary lines, while discrepancies between generations within the same country may indicate a structural conflict based on age. The findings suggest the possibility that if other attitudes are also similarly based, age-sex groups across boundary lines are better able to understand each other than are different generations living in the same country.

References

1. Benedict, R. The Chrysanthemum and the Sword. Boston: Houghton Mifflin, 1946.
2. Kitano, H. H. L. Differential child-rearing attitudes between first and second generation Japanese in the United States. *J. Soc. Psychol.*, 1961, **53**, 13-19.

3. Ortega y Gasset, J. What Is Philosophy? New York: Norton, 1960. Pp. 32-39.
4. Schaeffer, E. S., & Bell, R. Q. Development of parental attitude research instrument. *Child Devel.*, 1958, **29**, 339-361.

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THE CORPORATION: SOME ARGENTINE AND AMERICAN ATTITUDES*

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A. INTRODUCTION

Though the countries of Latin America differ among themselves in a number of respects, it is nonetheless true that there are cultural similarities among them, especially among the Spanish-speaking countries. Within their culture complex there is reason to believe that we may find an explanation for the fact that Latin American countries have not developed large-scale business and industry as has Anglo-America. The explanation may be sought at various levels, one of these being the tendency to develop and support organizations, such as the corporation, which are essential to large-scale business.

Many informal observations support the proposition that Latin Americans are distrustful of corporations. The Spanish term for corporation is *sociedad anonima* (anonymous society) for which the abbreviation is S. A. It is popularly stated that S. A. really means *sin alma* (without a soul). In Buenos Aires in 1957, there were two organizations for publicizing and supporting corporate enterprise. A lawyer representing one of these explained that such organizations were necessary because "The Spanish spirit is against capital." (La sangre iberica es contra capital.) He also commented, "Trust is a bad word (palabra mala) in Spanish." The tendency for Spanish-speaking people to prefer real estate and family-owned enterprises for investment has frequently been commented upon (2, p. 45; 8, p. 93; 9, p. 630). Latin-American disapproval of U. S. and other foreign corporations has also been widely noted (6, p. 148; 13, p. 103).

Other attitudes important to our topic are those relating to the nature and role of government. There is reason to believe that Latin Americans have a more personal view of government than Anglo-Americans (6, p. 31; 8, p. 246). There is also reason to believe that Latins want their governments to take a more active part in business and industry than do Anglo-Americans (1, p. 336; 2, p. 62).

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As mentioned, a difference in Anglo- and Latin-American attitudes toward corporations and government is generally assumed. However, there has been little systematic study of the subject, and the possibility exists that the assumed difference would not be supported by a fuller examination of the facts (5, p. 22). As a step toward verification of the widely held beliefs in these cross-cultural differences, responses to a questionnaire were secured in Argentina and in Tennessee.

As McClelland has pointed out, cross-cultural research is extremely difficult to perform under satisfactory conditions of comparability (5, p. 60). Some of the problems faced in selecting comparable respondents and securing comparable data are discussed in the sections which follow.

B. The Respondents

The Argentine respondents were 417 young male students who were in the last month of their senior year in four public preparatory schools of Buenos Aires.[1] Two-thirds of these respondents were of voting age, (18), and most of the others were 17. They were more mature than high-school students in the United States and 94.5 per cent of them indicated that they expected to pursue further studies, for the most part in a university. Accordingly, it was decided that to secure a comparable group in the United States, we should take students of a college. Responses were secured from an identical number of male students enrolled in Introductory Sociology or Introductory Economics at the University of Tennessee.[2] The median age of the University of Tennessee students was a year greater than that of the Buenos Aires students, but it was two years younger than our legal voting age and the respondents were probably farther from assuming the adult role than the Argentine students.

It is recognized that students reaching maturity are not representative of the adult voting population of a nation. Nonetheless, it is believed that as regards economics and politics they do reflect the attitudes of their parents to a considerable extent. If we know the attitudes of the student population,

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[1] The schools, which were said to be representative of public schools for males, were Carlos Peligrini, Colegio Nacional, Mariano Moreno, and Otto Krause. The author is indebted to Professor Gino Germani of the Instituto de Sociologia of the University of Buenos Aires for assistance in planning the study. He is indebted to the students in his Seminar in Industrial Sociology for assistance in designing the questionnaire, and to two students, Senora Ana Maria Diego and Senora Martha Bechis de Ameller, for assistance in administering the questionnaire. The author accepts full responsibility for analysis and treatment of the data.

[2] Responses were originally secured from 497 male students. The number was reduced to 417 by eliminating the responses of all seniors—26—all students with class unspecified—30—and 24 juniors selected by use of a table of random numbers.

we certainly do not have a precise indication of national attitudes, but we do have some insight into them.

It is recognized, also, that Buenos Aires students are not necessarily representatives of all Argentine students and that University of Tennessee students are not necessarily representative of all students in the United States. Nonetheless, there is no reason to believe that these groups are highly unrepresentative of the student populations of the two nations. If small differences are found between Buenos Aires and Tennessee students, the differences could easily be explained by the nature of our samples. If differences are found which are significant at a high level, we can be fairly confident that they represent real differences in the attitudes of Argentine and United States students and are probably indicative of differences in national attitudes.

C. Other Problems of Method

Relative to the questionnaire, it should be pointed out that it was not possible to question extensively on the subject considered here. In fact, the subject was politically explosive in Argentina at the time of this study (November, 1957) and many questions which we would have liked to have asked could not be included. The questionnaire was administered just prior to election of representatives to a national convention which would draft a new constitution replacing that in force under the Peron regime. A major issue in this election was the development of petroleum and other natural resources. Most of the eleven political parties opposed the granting of developmental rights to foreign corporations. (Standard Oil and Shell were operating in Argentina, but their operations were being curtailed.)

In the United States, also, the questionnaire was administered at a crucial time (November, 1960) just after a shortage of gold and foreign exchange was announced by the President. This situation may have increased xenophobia in our Tennessee respondents. However, it is unlikely that the situation in Argentina or that in the United States could have affected attitudes toward domestic corporations. If a difference is found in attitudes toward both domestic and foreign corporations in the two countries, we can be fairly confident that there is a real difference. If a difference is found only in attitudes toward foreign corporations, evaluation will be much less certain because of the different crisis situations mentioned (7).

Another major problem in cross-cultural studies relates to the meanings of words and the translation of questions. Here we perhaps have an advantage over some other cross-cultural studies in that our questions were originally composed in Spanish in a seminar comprised of Argentine students. The

questionnaire was pretested in an Argentine school and administered in other Buenos Aires schools. Subsequently it was translated into English. Thus, we are not translating for the Argentine questions originally expressed in English with a U. S. orientation, but rather the reverse. Fortunately, most of the words in our questions are of Latin origin and have very similar form and meaning in Spanish and English. One exception is the key term *sociedad anonima* which, after careful study, was accepted as the equivalent of the English word *corporation*.

D. Analysis of Responses

Regarding attitudes toward corporations, our respondents were asked: "Relative to action by the federal government, do you believe that domestic business corporations should be 1) stimulated; 2) restricted; 3) eliminated?" (Cree Ud. que las Sociedades Anonimas de la Argentina, deben ser por el Estado, 1) impulsadas; 2) restringidas; 3) eliminadas.) The answers are shown in Table 1.

TABLE 1
Distribution of Respondents According to Recommended Action by Federal Government Toward Domestic Corporations

Recommended action	Buenos Aires Number	Buenos Aires Per cent	Tennessee Number	Tennessee Per cent
Stimulate	349	83.7	248	59.5
Restrict	31	7.4	154	36.9
Eliminate	20	4.8	0	0.0
Qualified or no Response	17	4.1	15	3.6
Total	417	100.0	417	100.0

Note: $\chi^2 = 118.98$, $df = 3$, $p < .001$.

Several differences between the Argentine and the U. S. respondents are observable. The first is that more Argentines than Americans feel that the government should take strong action, either to stimulate or eliminate corporations. A much larger proportion of the U. S. respondents than of the Argentines believed that corporations should be restricted, *but not one U. S. respondent favored eliminating them.* Of the Argentines, 20 respondents (approximately five per cent) favored elimination. This difference in the two groups is significant at the .001 level ($z = 3.53$, $p < .001$).

Regarding foreign corporations, the same question was asked; responses are shown in Table 2. Argentines favored stimulating foreign corporations almost five to one over the U. S. respondents, and they also favored elimina-

tion in higher proportion. The U. S. respondents were much stronger for restriction than were the Argentines.

TABLE 2
DISTRIBUTION OF RESPONDENTS ACCORDING TO RECOMMENDED ACTION BY FEDERAL GOVERNMENT TOWARD FOREIGN CORPORATIONS

Recommended action	Buenos Aires Number	Buenos Aires Per cent	Tennessee Number	Tennessee Per cent
Stimulate	195	46.8	43	10.3
Restrict	138	33.1	327	78.4
Eliminate	59	14.1	43	10.3
Qualified or no Response	25	6.0	4	1.0
Total	417	100.0	417	100.0

Note: $\chi^2 = 191.60$, $df = 3$, $p < .001$.

As indicated, there is a significant difference in the attitudes of Tennessee and Buenos Aires respondents toward both domestic and foreign corporations. The Buenos Aires respondents prefer that the federal government act either to stimulate or eliminate corporations; the Tennessee respondents favor restriction in much higher proportion than do the Argentines. But is it possible that this is a spurious difference, due to a difference in composition of our samples?

The two characteristics in composition which would appear most likely to influence response are socioeconomic status and anticipated occupation of the student. As an indication of the former, we took occupations of fathers and divided these into three categories: High, including executive, lives from investments, professional, military officer; Medium, including manager, foreman, office worker, noncommissioned military officer; Low, including skilled or unskilled worker. The three classes correspond to those which Germani designates as Clases altas, Autonomas (High); Clases medias, dependientes (Medium); Clases populares (Low) (3, p. 149). They agree in general with occupational ranking which has been found valid in the United States (10, p. 168). Though no systematic study is available of the correlation between prestige of occupations in Argentina and the United States, the high correlations found for five other Western countries lead us to believe that evaluations in most Western countries are similar (4, p. 329).

Considering the possibility that the difference observed between Buenos Aires and Tennessee responses might be due to a difference in class composition of our samples, we compared the responses holding occupational status of father constant (Tables 3 and 4). As will be observed, the differences were

TABLE 3
DISTRIBUTION OF RESPONDENTS' ATTITUDES TOWARD DOMESTIC CORPORATIONS, HOLDING OCCUPATIONAL STATUS OF FATHER CONSTANT

Recommended action	High status[a] Buenos Aires	High status[a] Tennessee	Medium status[b] Buenos Aires	Medium status[b] Tennessee	Low status[c] Buenos Aires	Low status[c] Tennessee
Stimulate	188	67	54	106	71	67
Restrict	9	34	2	72	14	37
Eliminate	10	0	2	0	6	0
Total	207	101	58	178	91	104

[a] $\chi^2 = 51.60$, $df = 2$, $p < .001$.
[b] $\chi^2 = 32.41$, $df = 2$, $p < .001$.
[c] $\chi^2 = 15.69$, $df = 2$, $p < .001$.

TABLE 4
DISTRIBUTION OF RESPONDENTS' ATTITUDES TOWARD FOREIGN CORPORATIONS, HOLDING OCCUPATIONAL STATUS OF FATHER CONSTANT

Recommended action	High status[a] Buenos Aires	High status[a] Tennessee	Medium status[b] Buenos Aires	Medium status[b] Tennessee	Low status[c] Buenos Aires	Low status[c] Tennessee
Stimulate	122	9	28	20	29	13
Restrict	55	82	22	142	40	84
Eliminate	25	14	6	20	22	8
Total	202	105	56	182	91	105

[a] $\chi^2 = 83.68$, $df = 2$, $p < .001$.
[b] $\chi^2 = 41.62$, $df = 2$, $p < .001$.
[c] $\chi^2 = 27.45$, $df = 2$, $p < .001$.

significant at the .001 level for each occupational class. Therefore, this possibility is rejected.

Holding anticipated occupation of student constant and comparing Buenos Aires and Tennessee attitudes toward domestic and foreign corporations, for each occupational category we found differences significant at the .001 level except for those occupations which are represented by only a small number of cases (Tables 5 and 6). Thus the facts indicate rejection of the probability that the difference between attitudes of Buenos Aires and Tennessee students toward corporations is to be explained by differences in anticipated occupations of the two groups. The conclusion is that there is a real difference between the attitudes of these Argentine and Tennessee students toward corporations; i.e., that the observed difference is not due to difference in parental status or occupational choice of respondents.

Further analysis of the data reveals that, in Argentina, attitudes toward both domestic and foreign corporations vary with occupational status of

TABLE 5
DISTRIBUTION OF RESPONDENTS' ATTITUDES TOWARD DOMESTIC CORPORATIONS, HOLDING ANTICIPATED OCCUPATION CONSTANT

Recommended action	Business or economics[a]		Engineering or architecture[b]		Law[c]		Medicine or dentistry[d]	
	Buenos Aires	Tennessee	Buenos Aires	Tennessee	Buenos Aires	Tennessee	Buenos Aires	Tennessee
Stimulate	93	93	101	52	42	16	60	8
Restrict	7	56	9	48	4	6	9	5
Eliminate	0	0	4	0	10	0	2	0
Total	100	149	114	100	56	22	71	13

[a] $\chi^2 = 29.61$, $df = 2$, $p < .001$.
[b] $\chi^2 = 45.88$, $df = 2$, $p < .001$.
[c] $\chi^2 = 8.98$, $df = 2$, $p < .02$.
[d] $\chi^2 = 5.27$, $df = 2$, $p < .10$.

TABLE 6
DISTRIBUTION OF RESPONDENTS' ATTITUDES TOWARD FOREIGN CORPORATIONS, HOLDING ANTICIPATED OCCUPATION CONSTANT

Recommended action	Business or economics[a]		Engineering or architecture[b]		Law[c]		Medicine or dentistry[d]	
	Buenos Aires	Tennessee	Buenos Aires	Tennessee	Buenos Aires	Tennessee	Buenos Aires	Tennessee
Stimulate	64	16	49	9	22	1	33	1
Restrict	30	123	47	83	15	19	23	11
Eliminate	4	15	16	10	16	3	14	2
Total	98	154	112	102	53	23	70	14

[a] $\chi^2 = 83.43$, $df = 2$, $p < .001$.
[b] $\chi^2 = 38.54$, $df = 2$, $p < .001$.
[c] $\chi^2 = 19.87$, $df = 2$, $p < .001$.
[d] $\chi^2 = 10.79$, $df = 2$, $p < .01$.

fathers, but that this is not the case in Tennessee (Tables 7 and 8). In Argentina higher proportions of sons of low-status fathers favor restricting or eliminating corporations than do similar Americans.

It was believed that a larger proportion of our Buenos Aires respondents were of high status than is the case with the general population. Comparison of the occupational-status composition of fathers of our respondents with that of employed population of the nation supported this belief (Table 9). In fact, our Buenos Aires sample is heavily weighted with sons of high-status fathers. If we adjust to the proportions in the population, we have an increased proportion of respondents who favor restriction or elimination of both domestic and foreign corporations (Table 10). Also, our sons of low-status fathers are probably from the upper-lower. If we had proportional representation of the lower-lower, it is likely that the expression would be even more unfavorable

TABLE 7
ATTITUDES TOWARD DOMESTIC CORPORATIONS BY OCCUPATIONAL STATUS OF FATHER

Recommended action	High No.	High %	Medium No.	Medium %	Low No.	Low %	No response No.	Total No.
			A. Buenos Aires[a]					
Stimulate	188	86.6	54	91.5	71	75.5	36	349
Restrict	9	4.1	2	3.4	14	14.9	6	31
Eliminate	10	4.6	2	3.4	6	6.4	2	20
No response	10	4.6	1	1.7	3	3.2	3	17
Total	217	99.9	59	100.0	94	100.0	47	417
			B. Tennessee[b]					
Stimulate	67	62.6	106	57.9	67	63.2	8	248
Restrict	34	31.8	72	39.3	37	34.9	11	154
Eliminate	0		0		0		0	0
No response	6	5.6	5	2.7	2	1.8	2	15
Total	107	100.0	183	99.9	106	99.9	21	417

[a] $\chi^2 = 13.61$, $df = 4$, $p < .01$. The No-Response columns and rows were not included in the computation of χ^2.

[b] $\chi^2 = 1.43$, $df = 2$, $p < .50$. The No-Response columns and rows were not included in the computation of χ^2.

TABLE 8
ATTITUDES TOWARD FOREIGN CORPORATIONS BY OCCUPATIONAL STATUS OF FATHER

Recommended action	High No.	High %	Medium No.	Medium %	Low No.	Low %	No response No.	Total No.
			A. Buenos Aires[a]					
Stimulate	122	56.2	28	47.4	29	30.8	16	195
Restrict	55	25.3	22	37.3	40	42.5	21	138
Eliminate	25	11.5	6	10.2	22	23.4	6	59
No response	15	6.9	3	5.1	3	3.2	4	25
Total	217	99.9	59	100.0	94	99.9	47	417
			B. Tennessee[b]					
Stimulate	9	8.4	20	10.9	13	12.3	1	43
Restrict	82	76.6	142	77.6	84	79.2	19	327
Eliminate	14	13.1	20	10.9	8	7.5	1	43
No response	2	1.9	1	.5	1	.9	0	4
Total	107	100.0	183	99.9	106	99.9	21	417

[a] $\chi^2 = 22.54$, $df = 4$, $p < .001$. The No-Response columns and rows were not included in the computation of χ^2.

[b] $\chi^2 = 2.39$, $df = 4$, $p < .70$. The No-Response columns and rows were not included in the computation of χ^2.

TABLE 9
OCCUPATIONAL STATUS COMPOSITION OF FATHERS OF RESPONDENTS AND OF THE ARGENTINE POPULATION (IN PERCENTAGES)

Occupational status	Fathers of Buenos Aires respondents	Argentine population*
High	58.5	21.3
Medium	16.0	19.0
Low	25.5	59.7
Total	100.0	100.0

* Percentages are from Germani (3, p. 149).

TABLE 10
PERCENTAGE DISTRIBUTION OF RESPONDENTS ACCORDING TO RECOMMENDED ACTION BY FEDERAL GOVERNMENT TOWARD CORPORATIONS, BUENOS AIRES (Actual responses and responses adjusted to the occupational class structure of Argentina)

	Domestic corporations		Foreign corporations	
	Actual	Adjusted	Actual	Adjusted
Stimulate	83.7	80.1	46.8	38.4
Restrict	7.4	10.6	33.1	38.4
Eliminate	4.8	5.2	14.1	17.2
Qualified or no response		4.1	6.0	5.9
Total	100.0	100.0	100.0	99.9

to corporations than is now the case. Because attitudes in Tennessee appeared not to be status-related, there was no reason for adjusting these responses.

The proportion of Argentine students (almost half) who favored stimulation of foreign corporations was undoubtedly higher than that of the general public. These responses do not indicate that economic nationalism was strong in Argentina. They appear to be contrary to the attitude expressed in national elections, for in elections most of the voters supported parties which opposed foreign development of petroleum and national resources. However, it should be pointed out that our question referred to all foreign corporations, not merely those engaged in the development of petroleum and natural resources. Doubtless many respondents had in mind the many foreign meat-packing, medical, and mechanical corporations which operated in the country.

E. DISCUSSION

A plausible explanation for a difference in Anglo-American and Latin-American attitudes toward the corporation is supplied by Max Weber, but it is not limited to the thesis offered in his widely known work (12). In summarizing the preconditions for capitalism, Weber emphasizes the im-

portance of the commercialization of economic life by the use of exchangeable shares. According to Weber, the stock certificate and other instruments for "the commercialization of economic life" did not originate in Roman law, as did the corporation, but came from mediaeval sources, especially English and German. He adds that the "impersonality of relations" within a capitalist economy is repugnant to Catholic ethics specifically because the capitalist system places certain human affairs outside the influence of the church. The application of Weber's position to Latin America is indicated in his statement that "the unchaining of the economic interest merely as such has produced only irrational results; such men as Cortez and Pizarro, who were perhaps its strongest embodiment, were far from having an idea of a rationalistic economic life" (11, pp. 277-278, 341-342, 356-357).

Rationalism and impersonality appear to be basic characteristics of the corporation, and the stock certificate is an essential instrument. If the instruments of industrial capitalism derive from other than Roman origins and if impersonality is repugnant to Catholic ethics, we might expect a resistance to capitalistic structures and especially to the corporation in Latin-American countries. The figures presented appear to suggest the opposite, for a significantly larger proportion of Argentines than Anglo-Americans feel that corporations should be stimulated. However, it was noted that investment in corporate shares was not popular; stocks were selling for a fraction of their book value. *The clue would seem to be in the fact the respondents wanted the government to stimulate or eliminate corporations.*

It appears likely that Argentines think of their government in more personal terms than do citizens of the United States. Thus, it may well be that the Argentine preference for governmental action is explained by the fact that the government is conceptualized as personal, whereas corporations are conceptualized as impersonal (2, pp. 79, 85). Support for this explanation is provided by the suggestion of a perceptive Mexican economist that the preference for governmental development of industry in his country (instead of development by private corporations) may be due to a transfer to the central government of filial attitudes which had been directed toward the owners of large estates prior to the revolution.[3] The estate owner, who was both employer and protector, was referred to as "patron" in the prerevolutionary quasi-feudal structure. The transfer of the patron role from estate owners to government is referred to here as the "transfer-of-paternalism" thesis.

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[3] Comment of Manuel Bravo (Director, Office of Industrial Research, Banco de Mexico) in private conversation.

It is relevant that the Argentine movement led by Juan Peron was directed against large-estate owners just as the revolution in Mexico had been some years earlier (13, p. 125). Peron was deposed in 1955, but still had a very strong following in 1957. In this context it is clear that the transfer-of-paternalism thesis coupled with Weber's repugnance-of-impersonality thesis provides a plausible, though not established, explanation of the difference observed between Argentine and U. S. attitudes.

F. Conclusions

Though not directly related to our hypothesis, the finding that attitude toward corporations is status-related in Buenos Aires but not in Tennessee is important. Possibly lower-status sons regard the corporation as an instrument of the wealthy to be used against the less privileged. It would be valuable to have responses from a comparable sample of U. S. citizens during Teddy Roosevelt's "trust-busting" era.

The major finding is that between the two samples there is a difference in beliefs regarding action which the government should take toward corporations. A larger proportion of Argentines than Americans believe that the government should stimulate or eliminate. A larger proportion of the U. S. respondents than of the Argentines believe that the government should restrict. Since the differences are similar for domestic and foreign corporations, there is reason to believe that they indicate basic differences and are not due to the crisis situations which existed in each country at the time the responses were given. It will be remembered that these crisis situations could have influenced only attitudes toward *foreign* corporations.

Both observable facts and expressions of attitudes indicate that Argentines believe in positive or negative action by the government, not in *laissez-faire*. However, we do not know the attitudes of our respondents in sufficient detail to affirm that the beliefs expressed are due to a transfer of paternalism to the government because the impersonality of the corporation is repugnant.

All that can be said with certainty is that our data support a difference as hypothesized. Further study in Argentina and other Latin-American countries may support the "repugnance-of-impersonality" and "transfer-of-paternalism" theses or reveal an alternative explanation of this significant cultural difference. However, it will not be easy to secure reliable data in depth on these sensitive topics from people who have lived on the brink of revolution and economic collapse for more than a decade.

References

1. Cline, H. F. The United States and Mexico. Cambridge, Mass.: Harvard Univ. Press, 1953.
2. Fillol, T. R. Social Factors in Economic Development—The Argentine Case Cambridge, Mass.: M. I. T. Press, 1961.
3. Germani, G. Estructura Social de la Argentina. Buenos Aires: Editorial Raigal, 1955.
4. Inkeles, A., & Rossi, P. H. National comparisons of occupational prestige. *Amer. J. Sociol.*, 1956, **61**, 329-339.
5. McClelland, D. C. The Achieving Society. Princeton, N.J.: D. Van Nostrand, 1961.
6. Pierson, W. W., & Gil, F. G. Governments of Latin America. New York: McGraw-Hill, 1957.
7. Runciman, W. G., & Inkeles, A. Comment and reply. *Amer. J. Sociol.*, 1961, **66**, 367-368.
8. Scott, R. E. Mexican Government in Transition. Urbana: Univ. Illinois Press, 1959.
9. Truslow, F. A. Report on Cuba. Baltimore: Johns Hopkins Press, 1951.
10. Warner, W. L., Meeker, M. M., & Eels, K. Social Class in America. Chicago: Science Research Associates, 1949.
11. Weber, M. General Economic History. London: Allen & Unwin, 1927.
12. ———. The Protestant Ethic and the Spirit of Capitalism. London: Allen & Unwin, 1930.
13. Whitaker, A. P. The United States and Argentina. Cambridge, Mass.: Harvard Univ. Press, 1954.

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THE SOCIAL DESIRABILITY OF TRAIT-DESCRIPTIVE TERMS: APPLICATIONS TO A FRENCH SAMPLE* [1]

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A. INTRODUCTION AND PROBLEM

The observation was made in a recent paper (7) that we are lacking systematic information regarding cross-cultural constancies and differences in perceptions of social desirability (S-D). Information of this type, pertaining as it does to a basic evaluative dimension, might better help us to understand points of convergence and divergence among ostensibly different national and cultural groups. The little information now available in this area, based primarily on personality-test items, indicates that there is a high degree of relationship among the S-D ratings of Nisei, Norwegian, Near Eastern, and American students (6, 9, 10). Two very recent studies have further shown that the relative ordering of S-D ratings of trait-descriptive adjectives is highly comparable for male Japanese and American college students, using both the "social" and the "personal" rating sets (7, 8). Under both sets, however, the Japanese rated less extremely and less variably than did the Americans.

The present investigation seeks to build on the base established in the two immediately preceding studies. Broadly speaking, its purpose is to probe further the cross-cultural generality of S-D stereotypes based on ratings of trait-descriptive adjectives given by French and American college-age respondents. More specifically, the following are the focal problems: (*a*) to develop a set of S-D norms for French *S*s, (*b*) to test for sex differences in mean S-D ratings and variability of S-D ratings within the French sample, (*c*) to determine the extent of relationship in the relative ordering of S-D ratings between the two cultural groups, and (*d*) to test for absolute differences in mean S-D

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[1] This investigation was carried out during the senior author's tenure as a USPHS Special Research Fellow (MF 13, 421). During the fellowship period, he was attached to the Laboratoire de Psychologie Génétique of the Université de Paris. Deepest appreciation is expressed to the director of the Laboratory, Professor Pierre Oléron, for his continued warm interest and support, as well as to M. Alain Danset for his kind assistance and cooperation in all administrative matters connected with the research.

ratings and variability of S-D ratings between French and American *S*s.

The availability of comparable data for Japanese *S*s also makes possible some preliminary analyses involving *three* cultural groups. Such analyses, however, are limited by the fact that data are available only for Japanese *males*.

B. Method

Initially, an attempt was made to translate each of the 209 original trait-descriptive adjectives (2) into French. A certain number, because of structural differences in the two languages, proved to be nontranslatable and, in the end, a reduced list of 161 adjectives with presumed equivalence of meaning comprised the final word sample. These adjectives were embedded in the hypothetical frame "I am a —— person," and the French respondents were asked to evaluate the resulting propositions on a seven-point scale of social desirability. Point seven represented very desirable; point one, very undesirable; and point four, neither desirable nor undesirable. The rating set utilized was the *social* set; i.e., the frame of reference of people in general (2).

The task was group administered to a number of first-year candidates for the license in Psychology at the Sorbonne.[2] A total of 67 *S*s (39 male and 28 female) made up our French sample. Responses of these *S*s were analyzed and were contrasted to those of the 39 male and 28 female American college students who made up our initial social set norm group (2).

C. Results and Discussion

Based only on the ratings of French *S*s, means and variances were computed individually for all 161 adjectives and separately for males, females, and the total sample. The foregoing constitutes the basic normative data of the present investigation.[3]

1. *Sex Differences: French Sample*

Mean S-D ratings of French male and female respondents, based on all 161 adjectives, were correlated, with a resultant Pearson r of .993. Thus, as has been the case with American college samples in the past (1, 2, 4), the *relative*

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[2] The authors thank Mlle. Colette Chiland for her help in procuring subjects for the research.

[3] A seven-page table presenting means and variances for males, females, and total French sample and for the total American sample, together with significant mean differences (t ratios) and variance differences (F ratios) between French males *vs.* French females as well as total French *vs.* total American samples has been deposited as Document number 7897 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the Document number and by remitting $1.25 for photoprints, or $1.25 for 35-mm microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

S-D ordering of trait-descriptive adjectives is highly comparable across sexes for the French as well. Absolute sex differences in S-D ratings for the French sample were studied by a series of 161 individual adjective t ratios comparing group means. Significant differences at p .05 or beyond were found in only five instances, a total well within the range of chance expectancy. Finally, based on a model established in prior studies (1, 2, 4), a directional analysis of S-D means was carried out by tabulating for positive ($\overline{X}_{S\text{-}D}$ 5-7), neutral ($\overline{X}_{S\text{-}D}$ 3-5), and negative ($\overline{X}_{S\text{-}D}$ 1-3) adjectives, whether males or females had the higher mean S-D rating. The results of these tabulations are presented in Table 1. The highly significant χ^2 based on this distribution reflects the

TABLE 1
MEAN LEVEL OF S-D AND DIRECTION OF SEX DIFFERENCES FOR FRENCH SAMPLE

Direction	Mean level 5-7	3-5	1-3	Total
Males higher	25	13	32	70
Females higher	59	16	15	90
Total	84	29	47	160*

* Mean S-D level identical for one adjective ($\chi^2 = 18.01$, $df = 2$, $p < .001$).

characteristic of female *S*s to produce directionally more extreme S-D ratings (i.e., rating positive adjectives more positively and negative adjectives more negatively than do males). As such, it duplicates a type of finding demonstrated repeatedly in American samples (1, 2, 4) and is presumed to reflect the fact that the female is a stronger carrier and expresser of her culture than is the male.

Sex differences in variability were tested for all 161 adjectives, individually, by means of F ratios. Twenty-five such differences were found to be significant at p .05 or beyond, with men having the greater variability in 17 of those instances. A nonparametric directional analysis of sex differences in variability, structurally similar to the one reported in Table 1, yielded a χ^2 of 4.62 which falls short of reaching significance at p .05. That this χ^2 actually approaches significance is attributable to the tendency of male *S*s directionally to rate (31 of 46) *negative* adjectives more variably than do females. Thus, the general characteristic of more variable S-D ratings by males, found in several prior studies with American college students (1, 2, 4), appears to hold true only for negative adjectives in the French sample.

2. *Comparisons of French and Americans*

The Pearson r for S-D ratings of the total French and American samples for 161 trait-descriptive adjectives was .949, indicating a high degree of cross-

cultural concordance in the *relative* S-D ordering of such terms. It may be noted that this correlation significantly exceeds that reported by Iwawaki and Cowen (7), based on native-born Japanese and American *S*s. Indeed, it falls well within the range of structurally comparable correlations, derived from the ratings of diverse subgroups within the American culture, summarized elsewhere (3). Notwithstanding a presumed loss of some meaning in the process of translation, S-D stereotypes of French and American college students are, viewed correlationally, closer to each other than are, for example, those of American college females and American-domiciliated oldsters (3, 5).

Absolute differences in mean S-D ratings between the French and the American samples were tested by 161 additional individual adjective t ratios. There were 94 such significant differences. However, these did not appear to follow any consistent structural or content pattern. A nonparametric tabulation of directional differences in mean S-D ratings across cultural groups is summarized in Table 2. The observed χ^2 falls short of significance at p .05. Although there is some slight tendency for more extreme ratings by American than by French *S*s, this occurs primarily with negative adjectives where French *S*s rate less negatively in 31 of 47 instances. (χ^2, for this cell, $= 4.79$, $df = 1$, $p > .05$). This, in turn, may reflect group differences in variability (*cf.* below).

Significant cross-cultural differences in variability, tested by individual F ratios, were found for 80 of the 161 adjectives; in 63 of those instances the French were more variable than the Americans. These significant differences aside, the French were found directionally to have rated 115 of the 160 adjectives more variably than did the Americans (one tie). This greater variability was evident at all levels (52 of 83 positive adjectives, 21 of 30 neutral adjectives, and 42 of 47 negative adjectives). A χ^2 testing the departure of these distributions from chance expectancy indicates that the French were, overall, significantly more variable ($\chi^2 = 30.60$, $df = 1$, $p < .001$). The principal restriction on the interpretation of this datum comes from the

TABLE 2
MEAN LEVEL OF S-D AND DIRECTION OF DIFFERENCES BETWEEN TOTAL AMERICAN AND FRENCH SAMPLES

Direction	Mean level 5-7	3-5	1-3	Total
French higher	40	13	31	84
Americans higher	44	16	16	76
Total	84	29	47	160*

* Mean S-D level identical for one adjective ($\chi^2 = 4.89$, $df = 2$, $p < .10$).

rather heterogeneous nature of the student body at the Sorbonne, not only in terms of its attracting students from all parts of France, but also from other parts of the world (particularly French-speaking colonies, ex-colonies, and dependencies). The Sorbonne sample was thus a more polyglot one than the Rochester sample; hence, its greater variability is not surprising. It is quite possible that the earlier observation of directionally less extreme mean S-D ratings for French respondents in comparison to Americans is largely attributable to the greater variability of the French.

What seems to be most striking about the cross-cultural data, even assuming losses in translation and a relatively more heterogeneous French sample, is the comparability of the two groups, both in terms of relative orderings and absolute ones. The principal difference is reflected in a series of relatively slight but significant up-and-down-gradings of a substantial number of individual adjective means by one or the other group. These nonsystematic differences, however, should not obscure the strong indications of the rather fundamental nature of our notions about what is good and bad, which seem quite clearly to transcend cultural boundaries.

3. *Comparisons to Japanese Data*

In an earlier paper (7), direct comparisons of the S-D ratings of American and Japanese college *S*s were reported. The data of the present investigation make possible a three-way comparison of American, French, and Japanese respondents under the social set, limited however to male *S*s and to the 118 trait-descriptive adjectives in common to all three cultural groups. Based on these 118 adjectives, the following intercorrelations of mean S-D ratings were found: Japanese-American = .882 [.894 for 148 adjectives (7)], French-American = .908 (.949 for 161 adjectives as noted above), and Japanese-French = .849. Each of these three *r*s is significant at $p < .001$. Although the last one is the lowest reported by our group to date, it is to be kept in mind that not only was the computation based on a reduced adjective *N* (118) and a reduced subject *N* (due to its restriction to male *S*s) but, perhaps more important, involves words translated twice—from English to French and from English to Japanese. Conceivably, direct translation from French to Japanese or *vice versa* would have yielded a somewhat higher *r*.

Certain other formal Japanese-French comparisons appear to be unnecessary. For example, because Japanese *S*s were significantly less variable than Americans, who in turn were significantly less variable than the French, it follows that the Japanese are also significantly less variable than the French. With respect to level of mean S-D ratings, however, the situation was somewhat

more ambiguous, because Americans had been found to rate significantly more extremely than Japanese (7) and, in the present study, had been found to tend—but not significantly so except for negative adjectives—to stand in the same relation to the French. Accordingly, a nonparametric directional analysis comparing mean S-D responses of *male* French and *male* Japanese *S*s was carried out, and the results of this analysis are summarized in Table 3. The overall χ^2 indicates that the French also rate trait-descriptive adjectives significantly more extremely than do the Japanese.[4]

TABLE 3
MEAN LEVEL OF S-D AND DIRECTION OF DIFFERENCES BETWEEN MALE FRENCH AND JAPANESE SAMPLES

Direction	Mean level 5-7	3-5	1-3	Total
French higher	34	14	10	58
Japanese higher	20	11	28	59
Total	54	25	38	117*

* Mean S-D level identical for one adjective ($\chi^2 = 12.11$) $df = 2$, $p > .01$).

Thus, the very high degree of constancy in the relative ordering of the S-D properties of trait-descriptive adjectives, already reported for diverse American samples, seems to be true moving out transculturally so as to include an Oriental and Western European society. While avoidance of extreme ratings and a high degree of intrasample homogeneity appear to be stylistic components which differentiate Japanese from both French and American collegians, basic cultural perceptions of this fundamental evaluative dimension have a great deal in common.

D. SUMMARY

Sixty-seven French candidates for the license in Psychology at the Sorbonne (39 male and 28 female) rated 161 trait-descriptive adjectives on a seven-point scale of social desirability (S-D). Sex differences within the French sample were examined and, based on the data of two prior investigations (7, 8), cross-cultural comparisons between French and American and French and Japanese were also carried out.

In the French sample, an r of .993 was found between mean S-D ratings for male and female *S*s. Directionally, however, females gave significantly more extreme ratings than did males. Females were also less variable than

[4] A structurally identical analysis comparing Americans and Japanese, based on the same 118 adjectives, was carried out to determine whether results of the earlier directional analysis (7) held up after the word list had been pruned from the original total of 148. The resulting χ^2 of 24.19 ($p > .001$) indicates that the earlier results do indeed hold up, and that the order of extremeness of ratings is (*a*) Americans, (*b*) French, and (*c*) Japanese.

males, but only for negative adjectives. An *r* of .949 was found in mean S-D ratings for the total French and American samples. Although Americans tended to give more extreme ratings than did the French, this was significant only for negative adjectives. The French rated significantly more variably than did the Americans, but this may be attributable to the relatively heterogeneous nature of the French sample.

The *r* for mean S-D ratings between French and Japanese (males only) was .849. The French, directionally, rated significantly more extremely than did the Japanese and were also significantly more variable in their ratings.

Perhaps the most salient aspect of these findings, notwithstanding systematic stylistic differences, is the very high degree of constancy across an American, Oriental, and Western European college sample in the relative ordering of the S-D properties of trait-descriptive adjectives. This suggests rather deeply rooted constancies in what is perceived as good or bad in modern societies, transcending the frequently described—and perhaps quite real—surface differences to which the newcomer to a given society is often likely to respond with shock and amazement.

References

1. Cooper, A., & Cowen, E. L. The social desirability of trait descriptive terms: A study of feeling reactions to adjective descriptions. *J. Soc. Psychol.*, 1962, **56**, 207-215.
2. Cowen, E. L. The social desirability of trait descriptive terms: Preliminary norms and sex differences. *J. Soc. Psychol.*, 1961, **53**, 225-233.
3. ———. La variable "désirabilité sociale" dans l'étude de la personnalité. *Rev. Psychol. Franc*, 1963, **8**, 1-15.
4. Cowen, E. L., Budin, W., & Budin, F. A. The social desirability of trait descriptive terms: A variation in instructional set. *J. Soc. Psychol.*, 1961, **53**, 317-323.
5. Cowen, E. L., Davol, S. H., Reimanis, G., & Stiller, A. The social desirability of trait descriptive terms: Two geriatric samples. *J. Soc. Psychol.*, 1962, **56**, 217-225.
6. Fujita, B. Applicability of Edwards Personal Preference Schedule to Nisei. *Psychol. Rep.*, 1957, **3**, 518-519.
7. Iwawaki, S., & Cowen, E. L. The social desirability of trait-descriptive terms: Applications to a Japanese sample. *J. Soc. Psychol.*, 1964, **63**, 199-205.
8. ———. The social desirability of trait-descriptive terms: Further applications to a Japanese sample under the personal set. *J. Soc. Psychol.*, 1964, **63**, 207-214.
9. Klett, C. J., & Yaukey, D. N. A cross-cultural comparison of judgments of social desirability. *J. Soc. Psychol.*, 1959, **49**, 19-26.
10. Lovaas, O. I. Social desirability ratings of personality variables by Norwegian and American college students. *J. Abn. & Soc. Psychol.*, 1958, **57**, 124.

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SOME VALUE DIFFERENCES AMONG ADULTS AND CHILDREN IN SOUTH AFRICA*

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A. INTRODUCTION

In 1961 Allport stated that "we know a person best if we know what kind of future he is bringing about—and his molding of the future rests primarily on his personal values" (1). In the light of this statement, studies of values in South Africa seem worthwhile, not only because residents of Africa are concerned about their future, but also because of the existing complex situation. This situation is marked by social tension among several race and language groups which are drawn together in a modern industrial civilisation and yet which are forced apart by the apartheid laws of the country.

It is expected not only that different groups in such a society will display different value patterns, but also that differences in values and attitudes will become more pronounced with prolonged exposure to the methods that cause tension and conflict.

Danziger has studied differences in adult groups (2). It should now be interesting to see whether different value patterns exist in children of the different race groups and whether they undergo a change with age and through exposure to an educational system which isolates not only race groups and language groups into separate schools, but also places emphasis on different aspects of knowledge for the different groups. The aims of the present investigation are as follows: (*a*) to compare the scores on several value categories of children from three racial groups: White, Bantu, and Coloured;[1] (*b*) to compare the scores on the same value categories for three adult racial groups: White, Bantu, and Coloured; (*c*) to compare the value patterns of children with those of adults; (*d*) to compare the value patterns of two White language groups: i.e., of those who speak English and those who speak Afrikaans; and (*e*) to compare the value patterns of two White groups of children from different socioeconomic backgrounds (poor, and middle-class children).

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[1] The Coloureds are people of mixed descent.

B. Procedure

1. *The Test*

In this study, values were measured by the Uses Test that was developed by Wayne Dennis (4, 5).

The Uses Test is based on the assumptions: (*a*) that there are many questions that can be asked about objects, people, and events to which different persons give different answers; and (*b*) that these different answers can serve as clues to respondents' values (i.e., to the uses they differentially attribute to objects. The Uses Test used in this study consists of 50 open-ended questions, the answers to which are assumed to reveal some of the basic preoccupations, world views, or values of any group. The question asked about any one item is: "What is X for?" (X stands for a particular item.)

To be included in the Uses Test, each item (*a*) had to be easily denotable, and capable of being referred to in any language; (*b*) had to have at least four or more possible uses; and (*c*) had to be universally familiar to children. Examples included are boy, girl, old man, young man, cat, lion, stone, wind, stars, clouds, rain, storm, fire, flowers, dancing, policeman, army officer, strong man, etc.

Answers to the questions in the Uses Test are classified into the following seven categories:

1. *Sustentative* answers that refer to uses that sustain life; e.g., eating, sleeping, and earning a living.

2. *Benevolent* answers that refer to helping others, receiving help, and expressions of friendship or of good will.

3. *Malevolent* answers that express negative feelings, usually of fear or anger on the part of the respondent or on the part of others; e.g., "Hands are for fighting"—"A young man is for war"—"The stars are to make it difficult to astronomers."

4. *Hedonistic* answers that refer to pleasure-seeking or doing what one likes; e.g., "Birds are to cheer you up"—"An army officer is for enjoying girls."

5. *Aesthetic* answers that refer to beauty; e.g., "The lion has a beautiful mane"—"Plants are for decoration"—and so on.

6. *Religious* answers that refer to a deity, or to religious practices, or to persons and places associated with the supernatural.

7. *Hierarchical* answers that refer to a superiority-inferiority relation, or to prestige, achievement, obedience, power or authority; e.g., "A father is the head of the family"—"A boy is to bear the family name"—"A girl is to be a lady"—"A lion is the king of the animals."

According to Dennis, the seven categories listed above cover practically all possible answers. As can be seen, the Uses Test includes five of the value categories covered by the Allport-Vernon-Lindzey Study of Values, as well as two categories dealing with "baser" values. The subject does not need to be familiar with Western culture or does not need a University education to answer the questions. Questions can be answered by persons of little or no formal education, and the questions are especially suitable for children. Further, the questions are suitable for use practically everywhere. They have been used by Dennis and others in Central and South America and in several countries of the Middle East.

Like the Allport-Vernon-Lindzey Study of Values, the Uses Test measures the relative strength of several values, and the subjects cannot easily see the aim of the test or determine what significance their answers will have in scoring. Trained scorers who score independently show an interscorer reliability of .90 or more.

According to Dennis, societies that live at a subsistence level and which lack modern scientific understanding of natural phenomena, such as storms, droughts, diseases, and death, will show great concern with sustentative values and will see many fortunes and misfortunes in the light of the supernatural (religious values). With little time for hedonistic pursuits, subsistence societies will tend to be low on hedonistic values.

Again, according to Dennis, modern technological societies will show comparatively little concern with sustentative values, and much concern with pursuit of pleasure. Also they will give comparatively few religious responses. According to Dennis, this does not imply a lack of religious ideology or affiliation, but it does imply a lessened tendency to see supernatural intervention in daily events. Thus sustentative, religious, and hedonistic values may be related to the affluence of the economy and to the level of understanding of forces that affect health, safety, and livelihood.

2. *The Subjects*

1. The first four groups of subjects to be compared were as follows: (*a*) 30 12-year-old Afrikaans-speaking White children, and (*b*) 30 12-year-old English-speaking White children from poor socioeconomic sections of the population; (*c*) 30 12-year-old English-speaking Coloured children, and (*d*) 30 12-year-old Xosa-speaking Bantu children.

The socioeconomic background of the Coloured children probably is on a par with that of the White groups, but that of the Bantu children is poorer.

2. The second groups to be compared are (*a*) 36 English-speaking, and

(*b*) 36 Afrikaans-speaking White 12-year-olds from a middle-class, middle-income population.

3. The third groups to be compared are (*a*) 35 English-speaking White students, (*b*) 35 Afrikaans-speaking White students, (*c*) 35 English-speaking Coloured students, and (*d*) 35 English-speaking Bantu students between the ages of 17 and 23.

All subjects were from the Cape Province of South Africa.

3. *Test Administration*

Test instructions by a teacher were given to each group in its preferred language. Subjects were told that the questions were being asked of children in many parts of the world, and that they should answer the questions quickly and not think too long about any answer. Adults were told that their answers were needed for comparison with the answers to be given by children.

Children were given half an hour in which to answer the 50 questions. Students were allowed 20 minutes. The tests were given in school or during practical classes at the universities concerned.

C. Results

1. *Comparisons of the Twelve-Year-Old School Children from Relatively Poor Socioeconomic Groups*

The two White groups do not differ appreciably (see Table 1). However, they do differ on the sustentative and hierarchical categories. The Afrikaans-speaking Whites are higher than the English-speaking Whites on the sustentative category. They are lower on the hierarchical category. To the author there appears no obvious explanation as to why the English group secures higher scores on the hierarchical category; but, on the sustentative category, the higher scores of the Afrikaans children is due, no doubt, to the relatively lower socioeconomic status of this particular group, as compared with that of the English-speaking group.

The Coloured group is low on sustentative values and high on hedonistic values. This group of children represents relatively well-to-do families in the Coloured community. Perhaps it should be mentioned that, until recently, the unsophisticated Coloured was often described as a happy-go-lucky, pleasure-seeking type of individual. Coloured children are also relatively high on benevolence and religious values.

The Bantu group, the lowest socioeconomic group studied as well as the group with the least education, is high on sustentative values and is low on hedonistic values, as would be expected from Dennis' hypotheses. Also, in

TABLE 1
MEAN SCORES AND STANDARD DEVIATIONS ON THE SEVEN VALUE CATEGORIES OF THE USES TEST

Subjects		Value categories I (S)	II (B)	III (M)	IV (Hed)	V (R)	VI (E)	VII (Hier)
I. 30 English-speaking lower-class White 12-year-olds	*M* =	15.3	5.3	2.3	6.3	1.4	3.1	3.2
	SD =	3.2	2.3	1.5	2.8	0.8	1.7	1.1
30 Afrikaans-speaking lower-class White 12-year-olds	*M* =	16.9	5.9	2.7	5.9	1.4	3.0	2.4
	SD =	3.1	1.1	1.9	2.2	0.7	2.0	1.1
30 Coloured 12-year-olds	*M* =	13.0	6.3	2.5	8.3	1.7	2.9	2.2
	SD =	4.4	1.9	2.0	2.5	0.6	1.7	1.2
30 Bantu 12-year-olds	*M* =	18.9	6.6	3.8	3.4	1.9	2.1	1.9
	SD =	3.4	1.9	1.8	1.5	0.7	1.1	0.3
II. 36 English-speaking middle-class White 12-year-olds	*M* =	14.3	9.1	2.2	7.3	1.8	3.5	3.2
	SD =	4.1	2.7	1.4	2.1	1.0	1.9	1.4
36 Afrikaans-speaking middle-class White 12-year-olds	*M* =	13.8	7.4	2.3	5.9	1.9	3.2	2.4
	SD =	3.6	2.9	1.2	2.5	0.7	1.2	1.2
III. 35 English-speaking White university students	*M* =	10.7	7.1	2.9	8.7	1.6	4.3	4.3
	SD =	3.8	3.2	2.4	3.1	0.7	1.3	1.4
35 Afrikaans-speaking White university students	*M* =	10.5	7.2	2.6	7.7	2.1	4.3	5.1
	SD =	3.8	2.9	1.7	3.2	0.9	2.1	2.2
35 Coloured students	*M* =	14.2	8.7	3.2	6.3	1.4	3.8	4.8
	SD =	3.7	2.4	2.9	2.6	0.9	2.1	2.3
35 Bantu students	*M* =	20.1	8.7	2.8	4.4	1.3	2.3	3.6
	SD =	3.0	2.7	1.5	1.6	0.6	1.2	1.5

accord with Dennis' hypotheses, the Bantu group is relatively high on religious values and low on aesthetic values. The Bantu group also secured relatively high scores in the benevolence and malevolence categories.

Brief analysis of the content of the answers reveals that 23 per cent of the malevolence scores of the Bantu children are concerned with fear and suspicion; e.g., "A policeman is to arrest people"—"A dog is to bite people"—"Running is to get away from danger"—"An officer is to watch people." Only seven per cent of the malevolence scores of the two White groups consist of fear responses.

Perhaps as a reflection of growing concern with equality, the Bantu group obtains a low score on the hierarchical category. But, in this connection, one should recall that these children were born, and grew up, in an urban society in which tribal traditions of a rigid status hierarchy are no longer strong,

despite the fact that many answers reflect tribal life. An explanation for this last observation is probably to be found in the educational system with its emphasis on knowledge of tribal traditions, and practical training towards usefulness in the tribal homeland.

2. *Comparisons of Twelve-Year-Old White Children from Different Socioeconomic Backgrounds*

These two groups do not differ significantly on malevolent, hedonistic, or aesthetic values. But the children from the higher socioeconomic level are higher on benevolence, hedonistic, and religious values, and they are, as expected, lower on the sustentative category.

3. *Comparisons of the Adult Racial Groups*

The two White groups differ significantly only on religious and hierarchical values. As expected, the White groups are lowest on the sustentative category. The Bantu group is the highest. As compared with the White groups, the two Coloured groups score significantly higher on benevolence. The groups do not differ significantly on malevolence. On hedonism the White groups scored higher, as was expected. On the religious category the Afrikaans White group scores the highest. On the aesthetic category, again, as expected from Dennis' hypotheses, the White groups score significantly higher than other groups. The Bantu group scores significantly lower. The Afrikaans White group scores significantly higher on the hierarchical category than do either the English White group or the Bantu group.

4. *Comparisons of the Children and the Adult groups*

When adult White groups are compared with middle-class White children, the children score significantly higher on the sustentative value. (Dennis obtained no such difference between American children and adults.) The English children score significantly higher than adults on benevolence, but there are no significant differences among the remaining groups. In the adult groups, there is an increase in malevolence scores, but not a significant increase. Children are significantly lower on hedonistic, aesthetic, and hierarchical values. Children and adults do not differ significantly on the religious category.

In the Coloured group, adults score significantly higher than children on the benevolence and hierarchical categories, and significantly lower on hedonism. Bantu adults score significantly higher on the benevolence, hedonism, and hierarchical categories, and lower than children on malevolence and religious values.

5. *Comparisons of the Two White Language Groups*

The main points of interest in these comparisons are (*a*) the low scores secured by the Afrikaans children (compared to English children) on the hedonism, benevolence, and hierarchical categories; and (*b*) the significantly higher scores secured by Afrikaans adults (compared to English adults) on the religious and hierarchical values.

All differences were tested by means of the *t* test and were accepted as significant if they reached the .05 level.

D. Discussion and Conclusions

In general it has been found that low sustentative value scores are linked with higher standards of living, and that high sustentative value scores are linked with low standards of living. Among persons who enjoy a high standard of living (the White groups) there is also a decrease in sustentative scores with advance in age.

On the benevolence category, the White children from the higher socioeconomic class scored higher than children from the lower socioeconomic group; but there is a slight decrease in the scores of the Afrikaans adults, and a significant decrease in the scores of the English-speaking adults. On the other hand, the adults of the two Coloured groups score higher than the children of these groups and higher than White adults. Adult differences seem to be related to Danzinger's finding of a basic value of privatism that determines the life organization of White adults in South Africa, in contrast with the strong orientation of non-Whites (2).

Malevolence scores are low throughout all groups. Only the Xosa children score significantly higher than other groups and it is found that a considerable proportion of these scores are based on answers relevant to fear and suspicion.

Hedonistic scores seem to be linked with socioeconomic level. They are low for those from the lowest level and high for those from the higher socioeconomic level. In general, hedonism increases with age and education, except in the Coloured group. The higher scores of Coloured children may be related to the fact that, generally, they have fewer duties and restrictions than do the children in the other groups studied.

In general, religious scores are low throughout all groups. The Afrikaans-speaking group show the only increase in scores with increase in age and education. Aesthetic scores show an increase with age, education, and socioeconomic level.

Hierarchical scores also increase with age and education, but show no clear link with socioeconomic level.

In countries other than South Africa, it has been found that value scores remain relatively constant from age five onwards. Only in a few cases, where disruptive influences have occurred, are values found to undergo change with age (4). Most of the changes found in the scores of our samples are changes that one could expect with increase in age and education, but some are surprising: for example, for the English-speaking Whites with advance in age, the decrease in benevolence scores; and, except for the Bantu, the trend towards an increase in malevolence scores with advance in age. In terms of value patterns, the increasingly high religious and hierarchical scores of the adult White Afrikaans-speaking group (the group which represents the dominant political power in the country) are suggestive of the type of personality described by Allport; i.e., that type in which religion lends support to exclusions, prejudices, and so on (1).

In the light of the effects of a political system isolating various groups, it seems that our most important finding is that the adult Afrikaans group and the adult Bantu group, the two extremes in political and economic power in South Africa, differ significantly on six of the seven value categories and that on every category these differences become greater with age.

References

1. Allport, G. Pattern and Growth in Personality. New York: Holt, Rinehart & Winston, 1961.
2. Danziger, K. Value differences among South African students. *J. Abn. & Soc. Psychol.*, 1958, **57**, 3.
3. Dennis, W. Arab and United States children: Some psychological comparisons. *Trans. N.Y. Acad. Sci.*, 1960 (June), **22** (Ser. II, No. 8).
4. ———. Cross-cultural studies of values: Part I. Values expressed by forms of utility. Maurice Falk Lecture delivered at Carnegie Institution of Washington, Washington, D.C., October 9, 1961.
5. ———. The uses test: A description and a scoring guide. Unpublished manuscript, Brooklyn College, Brooklyn, New York, 1962.

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THE RELATIONSHIP OF BIRTH ORDER TO COHESIVENESS* [1]

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A. INTRODUCTION

On the basis of a series of experiments and studies of real-life situations, Schachter (8) has convincingly demonstrated that firstborn and only children become more anxious than later-born children when threatened by an anxiety situation. Furthermore, the affiliative need, the desire to be with others, of firstborn and only children is greater than that of later-born children. Evidence is presented to show that the birth order-affiliative relationship may be attributed to two factors. First, since it has been shown that affiliative tendencies increase with anxiety, the greater desire of firstborns to be together results from greater anxiety. Second, the relationship between anxiety and affiliation is stronger for firstborns than for later-borns; that is, when anxiety is held constant, firstborns are still more affiliative.

Several investigators (4, 5, 6, 8) have suggested that anxiety is reduced when one is with company and that anxious individuals perceive others as a source of security. One study shows that being with others mitigates anxiety, but just for firstborn and only subjects (12). It thus seems thoroughly plausible to posit that one source of attraction to a group is the extent to which security needs are met, and that another is the degree to which affiliative needs are satisfied (2). We predict that highly anxious firstborn subjects will find membership in a group more attractive than will highly anxious later-born subjects.

B. METHOD

1. *Subjects*

The subjects were 234 freshman and sophomore female students at the University of Connecticut.[2] There were six subjects, strangers to one another,

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[1] This study was supported by a grant (M-4800 A) from the National Institute of Mental Health, Public Health Service.

[2] A fuller description appears in Weller (10).

in most of the groups. In some cases the number varied from five to eight. Twenty groups were run in each of two conditions.[3]

2. *Procedure*

Immediately upon arrival, subjects were given a questionnaire which asked about the family, among other things, and included an adjective checklist (ACL 1), which measured the amount of anxiety present before the experimental manipulation. The procedure used to create the anxiety condition was identical to that used by Schachter (8). Pieces of electrical apparatus were situated in conspicuous places. To create the High Anxiety condition, the experimenter told the subjects:

> We'd like you to give you each a series of electric shocks. I feel that I must be completely honest and tell you what you are in for. These shocks will hurt; they will be painful, but do no permanent damage. . . .

In the Low Anxiety condition, the instructions were changed to:

> We'd like to give you each a few mild electric shocks. I hasten to add, do not let the word "shock" trouble you. These shocks will be very mild; at most they will give you a tickling sensation. . . .

In addition, some of the electrical apparatus was removed.

It was made clear that this particular research was concerned with the reactions to electric shock after the occurrence of a "psychological event," and that, for purposes of the experiment, a discussion of the case history of a juvenile delinquent would serve as this "event." The discussion, as such, was not integral to the shocks. During each 20-minute discussion, the same girl took the role of the deviate, one who held a severely uncompromising attitude towards the delinquent.[4]

3. *Measures*

After the experiment, each subject was asked to rate, on a seven-point scale, every other girl in terms of how much she liked or disliked her (Question 1). The following supplementary questions were also included:

> 2. How much would you say you like the members of this group? (Like group)
>
> 3. If you should ever have the chance to get to know the people in this group better, what sort of relationship do you think you would have with them? (Relationship)

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[3] Information on birth order was not available for 29 of the subjects.

[4] A more complete report on the nature of the discussion and the role of the deviate may be found in Schachter (7), where the manipulation was first used.

4. If you should ever get into trouble, how would you guess the people in this group would react to you? (Trouble)

5. Would you like to return for a discussion of this experiment? (Return)

6. Answer only if you would or could return for a discussion of this experiment. For the second meeting: I would like very much to return with these girls—I would very much like to return with other girls. (Second meeting)

It is noted that the sociometric questionnaire is the most frequently used index of cohesiveness and often the only measure employed. This is because it has been usually found to be the most sensitive instrument. Question 2 conforms to the nominal definition of cohesiveness, attraction of the members to the group, while the others measure cohesiveness indirectly.

One of the two anxiety measures was a modification of the Bahnson Adjective Checklist (1). The subjects were given 66 words from this list with instructions to check each of the adjectives they felt was descriptive or expressive of their feelings, state, or mood at that moment. There were 10 words measuring *Fearfulness,* one polar dimension of anxiety, and five words depicting *Secureness,* the other dimension. The numerical value of the Secureness dimension was subtracted from that of the Fearfulness dimension to give a total anxiety score. A negative score indicated no anxiety.

In order to verify the effectiveness of the manipulations, the checklists were given again after the threat (ACL 2) and at the close of the experiment (ACL 3). The increase (or decrease) in anxiety over the initial amount with which the subjects entered was ascertained by subtracting ACL 1 from ACL 2. The other anxiety measure used was the questionnaire employed in the Schachter studies and was administered immediately after both ACL 2 and ACL 3.

C. Results

The anxiety data were tabulated by ordinal position and analyzed separately for each experimental condition. Contrary to the Schachter finding, firstborn children did not become more anxious than those later-born when confronted with an anxiety-provoking situation. In High Anxiety, *t*-test comparisons of firstborns ($N = 62$) with later-borns ($N = 38$) for ACL 2, ACL 3, and ACL 2 — ACL 1 were significant at the —.96, —.41, and .41 levels of confidence, respectively. Similar comparisons ($N = 41$, $N = 42$) in Low Anxiety were significant at —.29, —.45 and .54 confidence levels. (Negative numbers indicate greater anxiety of later-born subjects.)[5]

[5] A complete discussion of the anxiety findings appears in Weller (11).

Because the hypothesis of greater cohesiveness for firstborns was predicated on differential anxiety, it is not surprising that we found no differences in cohesiveness. On the various cohesiveness questions, the means are almost identical for firstborn and later-born children.

As Schachter also found that firstborns preferred to affiliate more than later-borns—even when there were no differences in aroused anxiety—it is necessary to examine the relationship between ordinal position and cohesiveness, holding constant the degree of anxiety. This is shown in Table 1, where

TABLE 1
BIRTH ORDER AND COHESIVENESS (ANXIETY HELD CONSTANT)[a]

Condition	High anxiety First-born ($N = 26$)	High anxiety Later-born ($N = 10$)	z[b]	Low anxiety First-born ($N = 15$)	Low anxiety Later-born ($N = 11$)	z[c]	Comparison z First- vs. First	Comparison z[c] Later- vs. Later
1. Soc. rating	2.52	2.11	2.03*	2.38	2.62	—1.03	.55	—1.81
2. Like group	2.62	2.20	2.05*	2.20	2.54	—1.23	3.21*	—1.44
3. Relationship	2.98	3.30	—1.00	2.50	3.20	—2.07*	2.00*	.33
4. Trouble	2.02	1.80	.94	1.87	1.73	.52	.85	.29
5. Return	1.12	1.00	.35	1.13	1.18	—.21	—	—.71
6. Second mtg.	2.15	2.10	.53	1.73	2.20	—.94	2.03*	—1.06

[a] For each question, the higher the score, the less the cohesiveness.
[b] Due to large differences in the variances in High Anxiety as well as in the comparison of firstborns with each other, the Mann-Whitney U test was employed.
[c] These values are approximations, as tables with the exact p values were unavailable.
* $p \leqslant .05$, two tailed.

the data of highly anxious subjects are presented for each condition separately. The scores in the High Anxiety condition range from —26 to +54 and in the Low Anxiety condition from —36 to +39. Any score above 20 in the High Anxiety condition and above 10 in the Low Anxiety condition is defined as high anxiety.

The results differ for each condition. In High Anxiety, firstborn subjects liked each other significantly less than did later-born subjects, indicating *less* attractiveness to the group ($p < .05$). Differences between firstborn and later-born children were also significant for Question 2 ($p < .05$). With the exception of Question 3, the other cohesiveness measures were in the same direction.

In Low Anxiety, only Question 3 was significant ($p < .05$). Here, too, the other measures were in the same direction. However, the pattern was the reverse from that of High Anxiety: firstborn subjects displayed a tendency to be *more* cohesive than later-born subjects.

D. Discussion

One explanation for firstborn children becoming less cohesive than later-born children in High Anxiety is that the Schachter finding is not a stable one. But because a relationship, although opposite to that predicted, was found to exist between birth order and cohesiveness in High Anxiety, and because there was a tendency for the hypothesized relationship to occur in Low Anxiety, we are inclined to disregard this alternative.

These opposite patterns indicate that the relationship between birth order and cohesiveness depends upon the degree of anxiety. This, in turn, seems contingent upon the nature of the threat and the type of group involved. It is first necessary to distinguish between external threat, which results from sources outside the group, and internal threat. A second distinction must be made between a group with a history and a group just formed, as in this study.

There is a great likelihood that members of the former group will perceive each other as a source of support and security, whereas the individuals in the latter group have had no previous contact with one another and so have little reason to expect comfort. When an outside threat arises, the members may become hostile to the group instead of perceiving it as a source of security, because of its acknowledged inability to reduce or eliminate the threat. Under these conditions, highly anxious subjects may become disenchanted with the group, and firstborn subjects, for whom the link between anxiety and affiliation is greater, will react more strongly than later-born subjects.

The finding that firstborn children in High Anxiety became less attracted to the group than their counterparts in Low Anxiety (see next to last column of Table 1) suggests that anxiety causes a decline in cohesiveness. These differences do not occur for later-borns, however, where there seems to be a trend in the opposite direction. Our results, both for firstborns and later-borns, are in agreement with those of Staples and Walter (9).

The finding of a decrease in anxiety for firstborn children supports, at least in part, the explanation offered for the decline in cohesiveness with greater anxiety. Moreover, the general conclusion that anxiety may cause cohesiveness to wane when there is no stable group to begin with is strengthened by such research as that concerned with families which had a low degree of internal solidarity. These families were unable to sustain the impact of the depression (3). Finally, it may be that the birth order-cohesiveness relationship observed here would be different if other combinations of group and threat types were operative.

References

1. Bahnson, C. B. Conscious and non-conscious emotions and their relation to ego defenses, regression and symptom formation: A new technique of assessment. Paper read at the annual meeting of the American Psychological Association, Boston University Medical School, Boston, 1958.
2. Cartwright, D., & Zander, A., *Eds.* Group Dynamics (2nd ed.) Evanston, Ill.: Row, Peterson, 1960.
3. Coser, L. The Functions of Social Conflict. Glencoe, Ill.: Free Press, 1956.
4. Lanzetta, J. Group behavior under stress. *Hum. Relat.,* 1955, **8**, 29-53.
5. Lanzetta, J., *et al.* Some effects of situational threat on group behavior. *J. Abn. & Soc. Psychol.,* 1954, **49**, 445-453.
6. Pepitone, A., & Kleiner, R. The effect of threat and frustration on group cohesiveness. *J. Abn. & Soc. Psychol.,* 1957, **54**, 192-199.
7. Schachter, S. Deviation, rejection and communication. *J. Abn. & Soc. Psychol.,* 1951, **46**, 190-207.
8. ———. The Psychology of Affiliation. Stanford, Calif.: Stanford Univ. Press, 1959.
9. Staples, F., & Walters, R. H. Anxiety, birth order, and susceptibility to social influence. *J. Abn. & Soc. Psychol.,* 1961, **62**, 716-719.
10. Weller, L. The effect of anxiety on cohesiveness and rejection. *Hum. Relat.,* 1963, **16**, 189-197.
11. ———. The relationship of birth order to anxiety: A replication of the Schachter findings. *Sociometry,* 1962, **25**, 415-417.
12. Wrightsman, L. Effects of waiting with others on changes in level of felt anxiety. *J. Abn. & Soc. Psychol.,* 1960, **61**, 216-222.

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PREMARITAL PREGNANCY AND ANXIETY*

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A. INTRODUCTION

There is abundant evidence that some major changes are taking place in sex mores in America today. This is reflected not only in Kinsey's findings on premarital intercourse experience, for example (3, 4), but also in such information as is available on premarital pregnancy. Census data show that unwed pregnancies among girls aged 15 to 19 have more than doubled during the last 20 years. In 1940 there were 6.58 such pregnancies per 1000 girls aged 15 to 19 years. In 1945 the rate was 8.55 per thousand girls, in 1950 it was 10.56, in 1955 it was 12.52, and in 1957 it was 13.11 per thousand girls.[1] During the period from 1938 to 1958 the estimated annual number of illicit births increased from 87,900 to 208,700. The illegitimacy ratio, or estimated number of illicit births per 1000 live births, rose from 38.4 to 49.6. During the same period, the estimated number of illicit births per 1000 unmarried women of childbearing age increased from 7.0 to 21.0 (13).

Research on illicit pregnancy may focus on the unwed father, the illegitimate child, or the unwed mother. Most of the work on the unwed mother, such as Vincent's *Unmarried Mothers* (13) and Young's *Out of Wedlock* (15), is interested in the psychological peculiarities of unwed mothers, the motivation toward illicit conception, and the prevention of illegitimacy. We have encountered no studies which have focussed on the situation of the unwed mother and her response to this situation. It is the purpose of this paper to describe a small exploratory study of the relationship of anxiety to the situation of the unwed mother.

1. *Anxiety and Unwed Motherhood*

Anxiety is defined by Rollo May as "apprehension cued off by a threat to some value which the individual holds essential to his existence as a personality" (5). Anxiety is a diffuse apprehension; the crucial difference

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[1] These data were computed from tables giving numbers of illegitimate-birth and age-sex composition of the population in the 1941, 1946, 1951, 1956, and 1958 Statistical Abstracts of the United States (8, 9, 10, 11, 12).

between fear and anxiety is that fear is a reaction to a specific danger, while anxiety is unspecific, objectless. In anxiety the threat is "to something in the 'core or essence' of the personality," to some value with which the individual identifies his existence, such as success, patriotism, the love of another person (5). Fear is experienced on the basis of a security pattern which has been developed, but in anxiety the security pattern itself is threatened; the basis of a person's adjustment to life is jeopardized (5).

Pregnancy and motherhood, even when legitimate, are fraught with anxiety potential. There is the basic possibility that the expectant mother may die in childbirth. To the extent that motherhood is a value with which a woman identifies her existence, the possibilities that the baby may be stillborn or malformed are anxiety arousing. If health, attractiveness, a girlish figure are pre-eminent values for the pregnant woman, the possibility that these may be lost as a result of pregnancy is another source of anxiety. If the husband or another close relative upon whom the expectant mother is dependent for acceptance and emotional support is insistent that the child be a boy, or have red hair or some other characteristic over which the woman has no control, this attitude may also be a source of anxiety for her.

In addition to any of the above, the unwed expectant mother experiences a number of further sources of anxiety. Babbette Block suggests that such a girl may feel the anguish of "a sense of shame, expectation of condemnation, loneliness, panic, lack of status . . . and lack of a husband with whom to share responsibility" (1).

The retention of physical attractiveness is an especially important issue for the unwed mother, for while the married mother already "has her man," the unwed mother has yet to find a marriage partner. The fact that physical attractiveness is popularly believed to be a major determinant of the marriageability of a girl makes this a particular source of anxiety, especially because, as "damaged goods," she may feel that she possesses marriage liability.

May found in intensive interviews with 13 unwed mothers that "the predominant occasion of anxiety reported by the girls was competitive ambition—i.e., whether they would measure up to cultural standards of 'success'" (5). Another concern peculiar to the unwed mother is whether or not her baby will be "adoptable."

Perhaps the most potent source of anxiety for the unwed expectant mother is the fact or the fear of condemnation and rejection by family, friends, and peers—by people who are critically important to her. This rejection would be destructive to her existence as a person. Her unacceptable deviancy at this point is made more difficult because she must somehow try to resolve a basic

confusion in societal norms for herself. She must somehow reconcile contradictory attitudes toward illicit coition and illicit pregnancy. There are some social norms indirectly encouraging the former, but explicitly discouraging the latter.

2. *Hypothesis*

It is the hypothesis of this study that girls having close primary-group ties are less likely to experience high levels of anxiety during premarital pregnancy than girls having weak primary-group ties. This hypothesis is tested in the present study in terms of the strength of an unwed mother's primary relationships with her family, her home peer group, the father of her child, and other girls in the home for unwed mothers where she was staying.

The theoretical basis for this hypothesis is found in the conception of the primary group as a reference group which upholds values that are essential to the existence of the girl as a person. If the girl is stripped of these sustaining reference-group supports, the values which give her unity as a person are threatened and she will experience more of anxiety in accord with May's definition. If she is made to feel unredeemably alienated from these groups because she is totally rejected for her pregnancy, her existence as a person is jeopardized. Thus this research falls into the category of studies that have explored the anxiety consequences which result when a person's ties with the group are broken.

A number of other studies have found the breaking of primary-group ties to be very consequential for people in situations of stress comparable to unwed pregnancy. The Chinese Communists found that once they had dissolved the primary-reference-group ties of American prisoners of war in Korea, a third or more of the Americans could be persuaded to collaborate in various ways (6). Grinker and Spiegel found that it was strong primary-group ties which prevented Air Corps fliers from "cracking up" under combat stress during World War II (2).

The unwed mother, if she is placed in a shelter home, as all of the girls in our sample were, is largely deprived of support from family, boy friend, and peer group at a time of maximum stress incidental to *pregnancy* and to *illicit* pregnancy. However, in this situation, she may feel something of acceptance and support by these groups, though at a distance, or she may feel rejection. In the latter case, her situation is worsened by worries as to what she will do following delivery—how she will get by.

There seemed to be four basic acceptance-rejection possibilities in which the girl in our sample might find herself. (*a*) She might feel herself accepted

and sustained by both her home primary groups and her peers in the home; (*b*) she might feel accepted by her home primary groups and be largely uninvolved with other girls in the home; (*c*) she might feel rejected by groups at home and sustained by her peers in the home; or (*d*) she might be almost completely isolated from any groups. Our prediction was that the anxiety scores of our sample would rank in reverse order.

B. Procedure

Twenty-five girls in a West Coast home for unwed mothers having a predominantly middle-class clientele were interviewed. The focussed-interview technique was used in order to avoid structuring how the girl might experience and report on her illicit pregnancy. Interviews lasted from 40 minutes to 2½ hours, not counting the time it took to administer the Taylor Anxiety Scale (7). Areas covered during the course of the interview included family and home life, friends at home, friendships at the shelter home, age, hometown, religion, broken- or unbroken-home background, educational attainment, nature of relationship with the father of the child, whether the father knew of the pregnancy, whether his family knew of the pregnancy, and whether she would return to the same situation from which she had come following her delivery.

There was no difficulty in establishing rapport with the subjects as all appeared to need to talk about their experience. A number of the girls cried during the course of the interview, and all of the girls expressed their appreciation that the interviewer had taken time to talk with them, many asking the interviewer to come back and see them again.

The 25 girls in the sample ranged in age from 14 to 30. Twenty-three were from middle-class and two were from working-class backgrounds. Twenty-three were Caucasian, one was Chinese, and one was Negro. All were single girls who had never been married and who had never been pregnant before.

The Taylor Anxiety Scale was used to measure anxiety (7). This scale consists of 20 items drawn from the Minnesota Multiphasic Personality Inventory. It is scored as a lack-of-anxiety scale because higher scores indicate lower levels of anxiety in respondents.

C. Analysis of Data

The data were analyzed by dichotemizing all categories of data and preparing appropriate fourfold tables. Dichotemization was accomplished according to a median score or by sorting cases into two qualitatively different categories.

For example, a girl was either over 18 years of age or she was under age 18, and she was classified as either having a close relationship with her family, as indicated by things which she said during the interview, or as not having a close relationship. The interviewing took place over a five-month period, and no classification or categorization of interview data was made until all of the interviewing was completed. The Taylor Anxiety scores were likewise dichotemized at the median score, which was 12.

It is obvious that the small number of cases makes any statistical analysis of the data a highly dubious procedure. However, there is the need to evaluate the tendency for high anxiety scores to be associated with certain group relationships in attempting such tests of the hypothesis as may be made. Accordingly the chi-square test was applied to the fourfold tables in which the data were classified. Yates' correction for small frequencies was applied.

Because ours is a very small and nonrandom sample, it is apparent that the findings are merely suggestive.

D. Findings

This study collected data in regard to four different primary relationships which, in accord with our hypothesis, might reduce the level of anxiety experienced by unwed expectant mothers. These four relationships are (*a*) the family of the unwed mother, (*b*) the hometown peer group, (*c*) the father of the baby, and (*d*) other girls in the shelter home. Information drawn from the interview schedules regarding the girl's relationships with these four categories of people was used to test the hypothesis.

During the interviews, data were collected on two aspects of the girl's relationship with her family: (*a*) whether the girl came from a broken or an unbroken home, and (*b*) whether she anticipated returning to her family after leaving the shelter home. The data found in Table 1 show that there is a tendency for girls who come from unbroken homes to experience less anxiety than girls from broken homes, but the chi square does not reach the five per cent criterion level. That data in the table also show that those girls who anticipate returning to their parental homes after delivery experience less anxiety than girls who do not anticipate returning home. We interpret these data as suggesting that girls from unbroken homes may have experienced more emotional support at home and that girls who plan to return home feel that they can count on more home acceptance than those who do not plan to return. The girl who will return can face her pregnancy knowing that as soon as it is over her life will return to normal.

The second category of primary relationship is the peer group at home.

TABLE 1
RELATIONSHIP OF ANXIETY TO VARIOUS PRIMARY-GROUP RELATIONSHIP INDICES WITH PERTINENT CHI SQUARE

Relationship of anxiety to:		High anxiety	Low anxiety	Chi square	Probability level
Broken-unbroken home background	Broken home	7	5		
	Unbroken home	2	11	3.08	10%
Post delivery plans of girl	Will return home	4	8		
	Will not return home	11	2	4.84	5%
Closeness with hometown peers	Close to peers	2	10		
	Not close to peers	11	2	6.49	1%
Whether peer group knows of pregnancy	Peers know	4	8		
	Peers do not know	11	2	4.87	5%
Closeness with baby's father	Close relationship	3	9		
	Not close relationship	11	2	6.74	1%
Whether father knows of pregnancy	Father knows	9	3		
	Father does not know	5	8	1.99	10%
Father's family knows of pregnancy	Family knows	6	6		
	Family does not know	3	10	.95	10%
Whether girl has friends at shelter home	Some friends	3	9		
	No friends	8	5	1.99	10%

Interview data were relevant to two aspects of the girl's relationship with her peer group: (*a*) whether the girl had a close relationship with her peer group, and (*b*) whether the peer group knew of her pregnancy. Data in the table show that girls who have a close relationship with their hometown peers experience less anxiety than do those girls who do not have close peer-group ties. Likewise the data show that those girls whose friends at home know of the pregnancies experience less anxiety than do the girls whose hometown friends do not know. The unwed expectant mothers who can rely on a peer group to support them while they are confined and who do not have to anticipate the prospect of embarrassing questions from friends upon their return thus experience less anxiety.

The third category of primary relationship is the girl's relationship with the father of her child. Three sets of data collected during the interviewing were relevant to this relationship. These are (*a*) the closeness of the relationship between the girl and the father, (*b*) whether the father knew of the girl's pregnancy, and (*c*) whether the father's family knew of the girl's pregnancy. Data in the table show that a close personal relationship with the

father at the time of conception is associated with the girl's experiencing little anxiety. There is no significant relationship between whether the father knows of the pregnancy and whether the father's family knows of the pregnancy and the girl's experience of anxiety. The data do suggest the *possibility* that the father's and his family's knowing is related to higher levels of anxiety in the girl.

We have a rather paradoxical pattern: low-anxiety girls had close personal relationships with the fathers of their babies, but had not told the boys of the pregnancy, while high-anxiety girls had nonclose relationships with the father, but tended to have told the boys of the pregnancy. This seemingly contradictory pattern of data seems to be best explained by Willard Waller's principle of least interest (14).

Those girls who had a close relationship with the father of the baby may have entered into sex relations when there were mutual feelings of love. When such a girl found that she was pregnant and realized that marriage to the boy involved would not be a successful union, she was able to drop him without telling him of the pregnancy. The girl who did not have a close relationship with the father of the baby may have yielded to sex relations, we suspect, because she was more involved and was trying to hold the boy. Her anxiety score tended to be high. It seems plausible that such a girl, finding herself pregnant, may have tried to control the relationship by telling the boy in an effort to make the relationship a permanent one. This would be an attempt to exercise control over the party least interested in the relationship who, as Waller points out, is in effective control of the relationship. That very few of the relationships which resulted in pregnancy had any prospect of permanence is seen in that at the time of the interviews only two of the girls were yet in contact with the fathers of their babies, and both of these were girls who had had close relationships with the boys. Some support for our speculation is seen in the fact that six girls admitted in the interview that they had told the boys of the pregnancy because, in the words of one girl, "I wanted to make Steve fall in love with me."

The last category of primary relationship is the other girls at the shelter home. One set of interview data was relevant: whether the girl had made friends at the home.

Data in the table show a nonsignificant tendency for girls who have no friends at the shelter home to have higher anxiety scores than girls who have friends at the home.

The testing of our hypothesis that close primary-group relationships will be associated with low anxiety scores in unwed expectant mothers has been

clearly substantiated in the cases of relationships with the family at home, with hometown peers, and with the father of the baby. In the case of relationships with other girls in the shelter home, the distribution was not significant, but the trend of data was in the direction predicted by the hypothesis.

A last prediction, suggested by the hypotheses and by the expectation that longer-acquaintance peer groups would be more supportative than shorter-acquaintance peer groups, was that mean anxiety scores of girls could be ranked such that girls who felt accepted by both home and shelter-home primary groups would score lowest, those accepted only by home primary groups would score next higher, those accepted only by the shelter home would score next, and those who felt isolated from all groups would score highest of all. This prediction was sustained, the mean *lack* of anxiety scores for these four groups being 14.4, 13.4, 10.7, and 6.6 respectively.

No relationship was found between anxiety level and age of the girl, level of education of the girl, religion of the girl, and proximity of the girl's home to the shelter-home situation.

E. Summary and Conclusions

Twenty-five unwed expectant mothers in a West Coast shelter home were given the Taylor Anxiety Scale and were interviewed concerning their relationship with family, with hometown peers, with the father of their child, and with other girls in the shelter home. It was predicted that girls who had close primary-group relationships would experience less anxiety during the stress of unwed pregnancy than girls who did not have close primary-group relationships. This hypothesis was substantiated by the data. Our findings are thus in accord with those of Grinker and Spiegel, Schein, and others, that close primary-group ties are associated with experiencing low levels of anxiety in a stress situation.

References

1. Block, B. The unmarried mother—Is she different? In *Understanding the Psychology of the Unmarried Mother*. New York: Family Service Association of America, 1945.

2. Grinker, R. R., & Spiegel, J. P. Men Under Stress. Philadelphia: Blakiston, 1945.

3. Kinsey, A. C., Pomeroy, W. B., & Martin, C. C. Sexual Behavior in the Human Male. Philadelphia: Saunders, 1948.

4. Kinsey, A. C., *et al.* Sexual Behavior in the Human Female. Philadelphia: Saunders, 1953.

5. May, R. The Meaning of Anxiety. New York: Ronald Press, 1950.

6. SCHEIN, E. H. The Chinese indoctrination program for prisoners of war: A study of attempted brainwashing. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in Social Psychology* (3rd ed.) New York: Henry Holt, 1958.

7. TAYLOR, J. A. A personality scale of manifest anxiety. *J. Abn. & Soc. Psychol.*, 1953, **48**, 285-290.

8. U. S. BUREAU OF THE CENSUS. Statistical Abstract of the United States, 1941. Washington, D. C. Government Printing Office, 1941.

9. ———. Statistical Abstract of the United States, 1946. Washington, D. C.: Government Printing Office, 1946.

10. ———. Statistical Abstract of the United States, 1951. Washington, D. C.: Government Printing Office, 1951.

11. ———. Statistical Abstract of the United States, 1956. Washington, D. C.: Government Printing Office, 1956.

12. ———. Statistical Abstract of the United States, 1958. Washington, D. C.: Government Printing Office, 1958.

13. VINCENT, C. E. Unmarried Mothers. New York: Free Press of Glencoe, 1961.

14. WALLER, W. W. The Family: A Dynamic Interpretation. New York: Gordon, 1938.

15. YOUNG, L. Out of Wedlock. New York: McGraw-Hill, 1954.

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THE SOCIAL DESIRABILITY OF TRAIT-DESCRIPTIVE TERMS: A PAIRED-COMPARISON APPROACH* [1]

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A. INTRODUCTION

Presently available data indicate a marked correlation, frequently of the order of .80 or greater, between self-endorsement (SE) of personality-inventory items and their social desirability (S-D) (6, 8, 10, 11, 12, 13, 19, 21, 22, 25, 27). This oft-demonstrated fact has given rise to the development of a variety of techniques designed to control for or to reduce the contaminating effects of S-D stereotypes in personality assessment (3). One of these, the forced-choice or paired-comparison approach, has attracted a good deal of attention because of its potential for circumventing the S-D problem. Recently, we have witnessed the development of a series of forced-choice personality tests (9, 18, 20) which are based on equating for S-D, personality-relevant alternative options reflecting different content areas. The Edwards Personal Preference Schedule (EPPS), consisting of pairs of items representing 15 of Murray's need categories is a good example of this type of test. Responses to such item pairings are presumed to be a function of specific personality attributes of the respondent rather than formal or stylistic determinants, such as the tendency to answer in a socially desirable way.

The forced-choice approach has had a reasonably long and dignified history in the field of psychology (23)—one which has not been lacking for controversy. An extensive discussion of limitations of this method is provided by Travers (26), whereas somewhat more sympathetic evaluations are offered by Baier (1), Gordon (17), and Cronbach (7).

Most germane to our present considerations, however, is the observation by Loevinger (24) that ". . . the statistical properties of items administered independently, change when they are assembled in a forced choice format" (p. 303). This notion lies at the base of a recent study by Corah, Feldman,

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[1] Portions of this paper were presented separately at the Eastern Psychological Association meetings in Atlantic City, New Jersey, in April, 1959, and New York, New York, in April, 1960.

Cohen, Gruen, Meadow, and Ringwall (2). These investigators argued that although item pairs comprising the EPPS had been roughly equated for their individually established S-D values, the configuration which results from pairing may produce systematic S-D preferences for one or the other member. When new S-D values were established based on pairs rather than single items, it was again possible to demonstrate a very high correlation (.88) between S-D preference for one item of a two-item configuration and the probability of its endorsement. A replication an extension of this study by Edwards, Wright, and Lunneborg (15) reports a correlation of .60 between the same two variables, somewhat lower than that found by Corah *et al.* (2) but somewhat higher than the original .40 correlation reported by Edwards (14). The elevated correlation noted by Corah *et al.* (2) may be attributed either to a genuine configuration effect, or to the fact that EPPS items may not have been sufficiently precisely matched for S-D, to preclude the operation of this variable. A further investigation by Feldman and Corah (16), designed to differentiate between these alternatives, led to the conclusion that the configurational factor, rather than imperfect matching, was the active ingredient in their prior findings.

Concurrent with the foregoing investigations, a series of studies dealing with basic parameters of the S-D phenomenon was in progress in our own laboratory. The results of these investigations have been summarized elsewhere (4). The basic unit of focus in our approach was the trait-descriptive adjective in contrast to the personality-inventory item which has been used by the preponderant majority of other investigators. A simple example of this work is found in our original normative study (3) in which college *S*s made S-D ratings along a seven-point scale, for a lengthy series of trait-descriptive adjectives embedded consecutively in the hypothetical frame, "I am a —— person." Our preference for working at the level of the trait-descriptive adjective is based on the presumption that such an approach is more likely to provide a "pure" S-D measure by circumventing extraneous item writing variance inherent in personality-inventory statements.

One by-product of our original study was the availability of a set of S-D norms for a pool of 209 adjectives. This, together with the findings of a second study (5) in which we were able to demonstrate that variations in order and context affected the absolute magnitude of S-D ratings, led to the conviction that it would be useful to examine the effects of systematic manipulation, within the framework of a paired-comparison approach, of the amount of mean differences between adjectives comprising a given forced-choice configuration. Speaking broadly, we were interested in the effects of

such variation upon (*a*) S-D perceivability, and (*b*) SE preferences when item pairs are represented as part of a personality inventory.

The present report summarizes the findings of eight separate studies, two major and six minor, evolving from this frame of reference. Each of these investigations is based upon four specific paired-comparison test forms (to be described below). These forms vary systematically only in terms of mean S-D differences, individually established for each adjective in the normative study, between item pair members.

Our work has been guided by the following five questions:

1. Are there systematic differences in the perceived S-D of adjectives in a pairing when (individually determined) S-D mean differences between these items are zero? While it is to be expected that precise matching of this type would operate to reduce perceivability of S-D differences, the results of prior investigations (2, 16) suggest that we should expect to find, even under these "tightly controlled" conditions, preferential selections attributable to contextual or configurational determinants.

2. What is the relationship between *amount* of mean S-D differences between pair members and the ability of *S*s to perceive such differences? Implicit in the design of the experiment is the expectation that as the S-D gap between pair members increases, perceivability of S-D differences should become more apparent to respondents.

3. Are there systematic differences in SE preferences when adjectives comprising forced-choice pair members have been equated for S-D? To the extent that configurational factors promote differential S-D perceptions, it may be expected that the latter would be paralleled by SE preferences.

4. As S-D differences between item pair members become greater, will there be a comparable sharpening of SE choices? And finally our primary question:

5. What is the specific relationship between S-D perceivability and SE preferability? Since we begin with the premise that self-endorsement of personality-test items is likely to be governed by the extent to which S-D discriminations are apparent (a premise which appears to derive considerable support from recent empirical findings), our implicit hypothesis is that the correlation between S-D and SE should increase as S-D differences between adjective pair members become more evident.

B. The Test Forms

A series of four paired-comparison forms was developed, in which the major independent variable was the amount of S-D mean difference, based on total group means from the original normative study (3), between mem-

bers of the pairs. Each of these test forms contain 48 adjective pairs with descriptive attributes as follows. *Form 0*—means S-D difference between pair members of .01 with a range from .20-.03 (e.g., active [6.13]—optimistic [6.13]; complex [4.15]—nonchalant [4.15]; cynical [1.72]—vain [1.72]); *Form 33*—mean S-D difference between adjective pairs of .33 with a range from .30-.36 (e.g., serious [4.97]—deliberate [4.64]; *Form 67*—mean S-D difference between pair members of .67 with a range from .61-.76 (e.g., anxious [2.82]—apathetic [2.15]); *Form 117*—mean S-D difference between pair members of 1.17 with a range from 1.01-1.38 (e.g., expressive [5.33]—accurate [6.50]). It should be emphasized that all four test forms were set up so as to include adjective pairs extending across the full range of the S-D continuum. Although it was not possible to control precisely for variance differences between pair members, this variable was taken into account in establishing the pairings. The average overall variance difference between pair members, across all four test forms, was approximately .12. Table 1 summarizes the foregoing descriptive data.

TABLE 1
DESCRIPTION OF TEST FORMS

Form	Number of pairs	Mean difference	Range of mean difference	Mean variance difference	Range of variance difference
0	48	.01	.00- .03	.127	.00-.33
33	48	.33	.30- .36	.113	.00-.31
67	48	.67	.61- .76	.133	.00-.33
117	48	1.17	1.03-1.38	.095	.00-.29

To control for order effects, an A and B order was established for each of the test forms, such that one member of each adjective pair appeared first in one order and second in the other. For Forms 33, 67, and 117 this variable was further controlled by having half the adjectives with higher S-D means appear as the initial pair member, while the other half appeared second. We thus had four basic forms, each with two orders for a total of eight different subtests. None of the adjectives appeared more than once in any of the four basic forms.

C. METHOD

Six of the eight studies to be reported in this paper dealt with S-D perceivability. The first of these was our major base-line investigation, while the remaining five were relatively limited cross-validating studies. The other two studies had to do with SE preferences, including a structurally parallel major base-line investigation and one minor cross-validation study.

1. *Subjects and Design*

A total of 560 *S*s (280 male and 280 female), all introductory-psychology students at the University of Rochester, participated in the series of studies. No one *S* was ever in more than one of the experiments. In our base-line studies, both for S-D and SE, all eight paired-comparison subforms were used. Ten male and 10 female *S*s took each of these subforms, thus accounting for 320 *S*s. The design for the base-line S-D and SE experiments is summarized in Table 2. Each of the cross-validating studies, whether for S-D

TABLE 2
DESIGN FOR BASE-LINE S-D AND SE STUDIES (N=160 EACH)

Form	Male	Female	Total	
Form 0*				
Ord. A	10	10	20	40
Ord. B	10	10	20	
Form 33				
Ord. A	10	10	20	40
Ord. B	10	10	20	
Form 67				
Ord. A	10	10	20	40
Ord. B	10	10	20	
Form 117				
Ord. A	10	10	20	40
Ord. B	10	10	20	
Total	80	80		160

* Form 0 block of 40 *S*s repeated in all S-D and SE cross validations.

or SE, was confined to a single block of 40 *S*s (20 males and 20 females) all taking Form 0. The reasons for proceeding in this manner will be described below, following presentation of some of the initial findings. The six cross-validating samples of 40 *S*s each accounted for the remaining 240 *S*s.

2. *Procedures*

In the S-D study and its cross validations, *S*s were given a printed set of instructions briefly explaining the concept of S-D and concretely illustrating the procedure to be followed. They were asked to circle the member of each pair which, in their opinion, was the more socially desirable. In the SE study and its cross validation, these instructions were altered. Here, the *S* was told that he was actually taking a personality test, given the fictitious label "Self-

Descriptive Personality Inventory," and was accordingly asked to circle the adjective in each pair which described him more accurately. Other than this simple modfication in directions, the adjective pairs and the format of presentation were identical for S-D and SE *S*s.

All testing throughout the entire series of eight studies was done in relatively small groups ranging in size from six to 23. The task proved to be a very simple and seemingly motivating one which, on the average, took about 10-15 minutes.

D. Results

The findings evolving from this series of investigations are organized into five sections, as follows: 1) Base-line S-D study, 2) S-D cross-validation, 3) Base-line SE study, 4) SE cross-validation, and 5) Relationships between S-D and SE. Following this, an integrated discussion of the results is presented.

1. *Base-line S-D Study*

For each of the four basic test forms, tabulations were made indicating the number of times each pair member was circled as more socially desirable. Since there were 40 respondents on each form, based on chance alone 20 would have been expected to have rated each adjective in a given pair as more desirable. When the observed split was 27-13 or beyond, a nonchance preference for one adjective, significant beyond the .05 level, was established. Our first task was to determine the number of nonchance splits on the four basic test forms (each with 48 adjective pairs). Table 3 summarizes these data.

TABLE 3
Adjective Preference Analyses: S-D Choices

Form	Significant differences of 48	Right direction	Directional analysis All adjectives (48) Correct	Wrong	Even
0	17	—	—	—	—
33	17	16	34*	13	1
67	32	29	42*	5	1
117	42	42	48*	0	0

* Exceeds chance significantly.

We note that the numbers of significant S-D choices of pair members, as we move from Form 0 to Form 117, were 17, 17, 32, and 42, respectively. From amongst these significant differences on Forms 33, 67, and 117 (where there are actual S-D differences between pair members), it is virtually always (87 of 91 times) the adjective with the higher individual S-D mean which is selected as the more socially desirable one in the pair being con-

sidered. Quite beyond the question of significant splits if, for the three non-equated forms, we ask whether the higher S-D adjective, directionally, is seen as more socially desirable than the lower S-D adjective, we find that this has happened 34 of 48 times on Form 33, in 42 of 48 instances on Form 67, and in all 48 instances on Form 117.

An alternative approach to these same data involves the determination, for each adjective pairing in each of the three higher forms, of how many *Ss* selected the pair member with the higher S-D value as more socially desirable. For Form 33 the mean number of higher S-D adjectives chosen was 24.06, while the comparable figures for Forms 67 and 117 were 27.58 and 31.52 respectively. Table 4 presents the results of a simple analysis of variance

TABLE 4
ANALYSES OF VARIANCE: GROUPS 33, 67, 117 MEAN CHOICES OF PAIR MEMBERS WITH HIGHER S-D

Form	X choices	Sources of variation	df	Mean square	F	p
33	24.06	Between groups	2	668.2	17.98	.001
67	27.58	Within groups	141	37.2		
117	31.52	Total	143			

demonstrating the overall significance of the differences among these means. It can be seen from the t ratios summarized in Table 5 that preferences for

TABLE 5
t RATIOS COMPARING GROUPS

Comparison	D_M	Σ_{dm}	df	t	p
33 vs. 67	3.52	1.41	94	2.50	.02
33 vs. 117	7.46	1.16	94	6.43	.001
67 vs. 117	3.94	1.24	94	3.18	.01

the higher S-D member of the adjective configuration become significantly more clear-cut as we move from Form 33 to Form 117.

2. *S-D Cross Validation*

Referring to Table 3, there is one important datum which warrants further consideration. On both Form 0 and Form 33 there are beyond-chance S-D preferabilities established for 17 of the 48 adjective pairings. In the case of Form 33, because 16 of these 17 differences are in the expected direction (i.e., the adjective with the higher S-D mean is selected as the one with greater S-D), we may be reasonably confident that this represents a stable finding. On the other hand, for Form 0 the 17 of 48 significant differences could theoretically be the result of either a true configuration effect or else,

at least in part, chance factors. In order to be able to choose between these alternatives, it seemed necessary to collect additional data. Accordingly, five small, independent, cross-validating studies were undertaken with Form 0 only.

In each of these five studies, 40 new but comparable[2] *S*s (20 male and 20 female) completed Form 0 exactly as it had been used in the base-line study. The data from these studies were tabulated and analyzed by the method described above. The number of choices which departed significantly from chance for each of the new samples was as follows: CV_1, 13; CV_2, 15; CV_3, 13; CV_4, 13; CV_5, 18. It should be emphasized that all instances of significance are internally consistent (i.e., there are no reversals). Many times, where there are significant S-D preferences for one pair member in one sample, such preferences are significant in at least several other samples as well or, if not significant, they are directionally consistent. Pooling the data from all six samples (Form 0 base-line group plus five cross-validating groups), significant differences of S-D choices are found for 33 of the 48 pairings. There are, in fact, three adjective pairs for which significant differences are found in all six samples—*cheerful*-happy, *conservative*-poetic, and *thoughtful*-affectionate (preferred adjective italicized). Interestingly, however, there are 15 adjective pairs for which there are no significant differences in *any* of the six samples (e.g., acceptable-ambitious, tolerant-enterprising, irritable-fault finding).

3. *Baseline SE Study*

Procedures for data tabulation and analyses were identical to those used in the base-line S-D study. A primary concern was the determination, this time for SE, of the number of nonchance splits out of 48 on each of the four basic test forms. A summary of these findings is presented in Table 6, which

TABLE 6
ADJECTIVES PREFERENCE ANALYSIS: SE CHOICES

Form	Significant differences of 48	Right direction	Directional analysis All adjectives (48) Correct	Wrong	Even
0	15	—	—	—	—
33	18	12	29	17	2
67	22	15	30*	16	2
117	20	15	35*	11	2

* Exceeds chance significantly.

[2] Actually our second sample (CV_2) was drawn from a summer-session introductory-psychology class. This group was more heterogeneous in age and background than all of the other samples; hence one might more appropriately regard these *S*s as a validity generalization sample rather than a cross-validation one.

structurally parallels and may be compared to Table 3. Significant differences, going from Form 0 to Form 117, are 15, 18, 22, and 20 respectively. Of the total of 60 significant differences on the three higher forms, 42 are in the expected direction (i.e., stronger endorsement for the more socially desirable pair member). Even though the latter split exceeds chance, the findings are less clear-cut than the parallel ones from the S-D analysis. Significant differences aside, directionally the higher S-D pair member is preferred 29, 30, and 35 times out of 46 pairs[3] for Forms 33, 67, and 117, and hence 94 times out of the total of 138 comparisons. The chi squares based on these distributions are significant at p .05 or beyond for the pooled groups as well as for the 67 and 117 groups taken independently.

We also determined the mean number of *S*s on each of the three higher forms endorsing the pair member with the higher S-D value, as had been done previously for the S-D data. The respective means for Forms 33, 67, and 117 are 21.65, 22.38, and 24.08. A simple analysis of variance indicates that the differences among these means, which are directionally appropriate, fail to reach statistical significance.

4. *SE Cross Validation*

Analysis of the Form 0 data for the cross-validation sample of 40 *S*s indicates that there are 18 significant splits out of the 48 adjective pairs listed. These splits parallel very closely the 15 significant ones from the base-line SE study; in fact, nine occur on the same adjective pairs. Even where significant findings in one sample are not duplicated by significant findings in the other, the results are almost always directionally consistent for the two groups. This is further evidenced by the fact that when the two SE samples are pooled, for a total N of 80 *S*s, the number of significant splits jumps to 28 of 48.

5. *Relationships between S-D and SE*

From the two base-line studies, for each adjective pair in each test form, we knew the number of *S*s who chose a given pair member as more socially desirable and the number of *S*s who endorsed that adjective as more self-descriptive. By intercorrelating these totals for the 48 adjective pairs comprising each test form, an estimate of the relationship between S-D and SE was obtained. Table 7 presents these four basic correlations, while Table 8 summarizes the results of z transformation tests of significance of the differences among them. We note a nonsignificant r of .18 between S-D and SE

[3] There were two tied pairs on each form.

TABLE 7
INTERCORRELATIONS BETWEEN S-D AND SE FOR FOUR TEST FORMS

Test form	r	p	Z
0	.18	ns	.181
33	.52	.01	.577
67	.58	.01	.663
117	.64	.01	.758

TABLE 8
TESTS OF SIGNIFICANCE OF DIFFERENCES BETWEEN S-D AND SE CORRELATIONS

Forms compared	$Z_1 - Z_2$	t ($df = 94$)	p
0 vs. 33	.396	1.88	.05-.10*
0 vs. 67	.482	2.28	.05
0 vs. 117	.577	2.73	.01
33 vs. 67	.086	0.41	ns
33 vs. 117	.181	0.86	ns
67 vs. 117	.095	0.45	ns

* Significant at $p < .05$ using a one-tailed test.

on Form 0. This r increases in a step-by-step fashion to a maximum of .64 (p .01) for Form 117. The S-D–SE correlation for Forms 33, 67, and 117 are all significantly greater[4] than is the one for Form 0, but they do not differ significantly from each other.

Since we had undertaken five S-D cross validations and one SE cross validation for Form 0 in addition to the original base-line studies, 12 intercorrelations between S-D and SE were potentially available for this form. These are presented in Table 9. The asterisked intercorrelation is the one

TABLE 9
INTERCORRELATIONS BETWEEN S-D AND SE FOR FORM 0 USING BASE-LINE AND ALL CROSS-VALIDATING GROUPS

SE	Base-line S-D	CV-1	CV-2	CV-3	CV-4	CV-5
Base-line	.18*	.36	.21	.39	.18	.28
CV	.30	.47	.34	.44	.30	.38

* Correlation previously reported in Table 7.

derived from the two base-line studies as reported in Table 7; each of the remaining 11 rs represents another estimate of the basic S-D–SE correlation. The 11 subsidiary rs run higher than the original .18 estimate—their average value being .32, which is statistically significant at p .05.

[4] In the case of Form 33 *vs.* Form 0, such significance is based on the use of a one-tailed test; with a two-tailed test, the difference reaches only the .07 level.

E. Discussion

Our discussion will be structured around the five basic questions toward which the research has been directed. In reference only to the S-D data, it can be said that even when mean S-D values of adjectives comprising a paired-comparison unit are perfectly equated for (individually established) S-D (Form 0), beyond chance preferences for one member of the configuration emerge. The results of our base-line study, buttressed by replication in five independent cross-validating samples, warrant the conclusion, consistent with prior theoretical speculation (24) as well as empirical findings (2, 16), that putting adjectives into a paired-comparison context appreciably modifies their individually established S-D values.

Secondly, it seems eminently clear that as S-D difference between pair members increases, there is a sharp increase in the perception of the adjective with the higher (individually established) S-D value as the more socially desirable member of the unit. Perceivability of S-D is already well established with as small a mean S-D difference as .33 (17 of 48 significant splits, 16 in the "correct" direction and 34 of 48 pairs in the predicted direction). It remains for future research to demonstrate whether an even smaller difference between pairs (e.g., .15 or .20) would also significantly affect S-D perceivability. By the time the mean S-D difference between pair members reaches 1.17, its perceivability in the forced-choice setup is overwhelming (42 of 48 significant splits, and all 48 in the predicted direction). Several implications may be drawn from the foregoing sets of findings. First, in future work based on paired comparisons, matching of trait-descriptive adjectives (and quite probably personality-test items as well) for S-D will undoubtedly have to be extremely tight, more so than has yet been achieved, to control for this variable. Moreover, such matching, to be effective, will have to take into account (through prior empirical study) the unknown effects of configurational factors on the S-D properties of specific pairings of traits or personality-test items.

With reference now to the SE data, the results both of the base-line investigation and the single cross-validation study point to the conclusion that there is a configurational effect which underlies forced-choice endorsement of trait-descriptive adjectives in a situation in which the S-D values of pair members (based on individual ratings) have been equated. By and large, the number of significant SE preferences on the three nonequated tests forms exceeds chance in the appropriate direction (i.e., greater endorsement of the pair member with the higher S-D). The directional analyses are consistent with these findings, but are clearly significant only for Forms 67 and

117. In sum, increase in S-D differences between adjective pair members is related to increases both in the perceivability of S-D and preferability for SE; however, it clearly relates more strongly to the former. The SE rating may be thought of as an end product potentially influenced by a multitude of factors; e.g., the S-D base rates of the task situation confronting the respondent, the reality value of the stimuli for him, his proclivities to be either "falsification prone" or "compulsively honest," etc. It is to be expected that the greater the demand value of S-D determinants as a function of objective attributes of the task and/or the importance of the situation to him, the greater is the likelihood that the respondent will be influenced by these determinants.

Our most fundamental concern theoretically, as well as our most important focus practically, however, had to do with possible differential relationships between S-D perceivability and SE preferability for the four basic test forms. Since it was our belief that a person's willingness to say that a given characteristic does or does not describe him is influenced markedly by the extent to which his reference group sees that characteristic as desirable or undesirable, we anticipated that the correlation between S-D and SE should increase sharply as we moved from Form 0—where differences in S-D perceivability are minimized—to Form 117, where such differences are maximized. The set of four correlations between S-D and SE from our base-line studies appeared amply to confirm this expectation. The Form 0 correlation of .18 was not significant and the correlation for each higher form increased, in turn, to a maximum of .64 on Form 117.

Our bent for due scientific rigor was not strongly reinforced by subsequent efforts to cross validate. The 11 reruns of our early .18 S-D–SE correlation for Form 0, made possible by cumulation of sundry cross-validating groups, yielded a mean r of .32, which is statistically significant. Thus, our original findings with respect to the S-D *vs.* SE relationship, which seemed quite clear-cut and uncomplicated, have taken on at least a modest note of muddlement. Whereas we have succeeded in showing, as predicted, that the correlation between S-D and SE increases as a function of increased perceivability of S-D differences of pair members in a forced-choice configuration, and have been able to develop a test form (Form 0) which substantially reduces the r between S-D and SE from the traditionally observed .8 or .9 to a mean r of .32, even on this form there remains a significant residual correlation probably attributable to changes in S-D perceptions from the individual rating situation to the configurational one.

This limitation notwithstanding, we are encouraged by the findings of the

present series of experiments. We believe that the method we have developed, with further refinement, can potentially lead to the substantial elimination of the contaminating effects of S-D factors in certain types of personality assessment. For example, it may be recalled that we have been able to identify 15 adjective pairs which have survived six successive S-D paired-comparison testings (each involving 40 *S*s) without a significant difference emerging in any of the individual studies or in the pooled results. There may be considerable merit in trying to broaden this base, empirically, through the construction of large numbers of new adjective pairings to be given to successive samples for determination of S-D perceivability in the configurational format. When a pair successfully weathers five consecutive cross validations without significant S-D preferences emerging, it would join the stockpile of "S-D—free" adjective configurations. Presuming a set of 40 to 50 such pairings, the constituent adjectives might then be categorized, using appropriate judging procedures, into a framework of basic personality dimensions. Self endorsement choices for such an instrument would have a considerably greater likelihood of reflecting individual differences in substantive personality attributes as opposed to differences in the use of formal response characteristics. This is not to say that the latter are unimportant; rather it is to emphasize the need to understand, to the greatest extent possible, the particular effects of psychological variables which may frequently be confounded in measurement.

Work directed toward the development of this type of personality measure is currently underway in our laboratory. Its successful completion would provide a personality-assessment procedure which bypasses the extraneous S-D variance known to haunt many widely used current personality inventories.

F. Summary

The present paper describes eight studies, involving a total of 560 *S*s, based on a paired-comparison approach to the study of social desirability (S-D). Two of the eight, the base-line S-D and the base-line self endorsement (SE) studies, were fundamental; the remaining six included five S-D and one SE cross validation.

A series of four test forms, consisting of 48 adjective pairs each, was developed. These forms differed only in the amount of mean S-D differences between pair members; on that dimension they ranged from a difference of zero to 1.17 (based on individual adjective norms established in an earlier study using a seven-point S-D rating scale).

In the six S-D studies, it was found that even where adjective pair members are perfectly equated, the configuration itself produces systematic dif-

ferences in S-D perceivability. As the amount of S-D difference between pair members is increased, the perceivability of these differences becomes increasingly apparent. With a mean difference as small as .33 between pair members, S-D preferences are already clearly established in a predictable direction.

As was the case for perceivability of S-D differences, forced-choice endorsement of one of a pair of trait descriptive adjectives is significantly affected by the attributes of the specific configuration even where the individual S-D ratings of the two adjectives have been perfectly equated. As S-D differences between pair members increase, SE preferences for the adjective with the higher S-D value also increase, but considerably less so than does S-D perceivability under structurally similar circumstances. As predicted, the relationship between S-D perceivability and SE preferability increases significantly as S-D differences between adjective pair members increase. The implications of this latter finding for the development of personality-assessment procedures relatively devoid of spurious S-D contaminations have been considered.

References

1. Baier, D. E. Reply to Travers' "A critical review of the validity and rationale of the forced-choice technique." *Psychol. Bull.*, 1951, **48**, 421-434.
2. Corah, N. L., Feldman, M. J., Cohen, I. S., Gruen, W., Meadow, A., & Ringwall, E. A. Social desirability as a variable in the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1958, **22**, 70-72.
3. Cowen, E. L. The social desirability of trait descriptive terms: Preliminary norms and sex differences. *J. Soc. Psychol.*, 1961, **53**, 225-233.
4. Cowen, E. L., & Budin, W. The social desirability of trait-descriptive terms: A comparison of 17 samples. *J. Soc. Psychol.*, 1964, **63**, 281-293.
5. Cowen, E. L., & Stiller, A. The social desirability of trait descriptive terms: Order and context effects. *Can. J. Psychol.*, 1959, **13**, 193-199.
6. Cowen, E. L., & Tongas, P. The social desirability of trait descriptive terms: Applications to a self concept inventory. *J. Consult. Psychol.*, 1959, **23**, 361-365.
7. Cronbach, L. J. Assessment of individual differences. In P. R. Farnsworth & Q. McNemar (Eds.), *Annual Review of Psychology* (Vol. 7). Palo Alto, Calif.: Annual Reviews, 1956. Pp. 173-196.
8. Edwards, A. L. The relation between judged desirability of a trait and the probability that the trait will be endorsed. *J. Appl. Psychol.*, 1953, **37**, 90-93.
9. ———. Personal Preference Schedule: Test Manual. New York: Psychol. Corp., 1954.
10. ———. Social desirability and Q sorts. *J. Consult. Psychol.*, 1955, **19**, 462.
11. ———. Social desirability and the probability of endorsement of items in the interpersonal check list. *J. Abn. & Soc. Psychol.*, 1957, **55**, 394-395.
12. ———. The Social Desirability Variable in Personality Assessment and Research. New York: Dryden, 1957.
13. ———. Social desirability and personality test construction. In B. M. Bass & I. A. Berg (Eds.), *Objective Approaches to Personality Assessment.* Princeton, N. J.: Van Nostrand, 1959.

14. ———. Revised Manual for the Edwards Personal Preference Schedule. New York: Psychol. Corp., 1959.

15. EDWARDS, A. L., WRIGHT, C. E., & LUNNEBORG, C. E. A note on "Social desirability as a variable in the Edwards Personal Preference Schedule." *J. Consult. Psychol.*, 1959, **23**, 558.

16. FELDMAN, M. J., & CORAH, N. L. Social desirability and the forced choice method. *J. Consult. Psychol.*, 1960, **24**, 480-482.

17. GORDON, L. V. Validities of the forced choice and questionnaire methods of personality measurement. *J. Appl. Psychol.*, 1951, **35**, 407-412.

18. ———. Gordon Personal Profile: Manual. Yonkers: World Book, 1953.

19. HANLEY, C. Social desirability and responses to items from three MMPI scales: D, Sc, and K. *J. Appl. Psychol.*, 1956, **40**, 324-328.

20. HEINEMAN, C. E. A forced choice form of the Taylor anxiety scale. *J. Consult. Psychol.*, 1953, **17**, 447-454.

21. KENNY, D. T. The influence of social desirability on discrepancy measures between real and actual self. *J. Consult. Psychol.*, 1956, **20**, 315-318.

22. KLETT, C. J. The stability of the social desirability scale values in the Edwards Personal Preference Schedule. *J. Consult. Psychol.*, 1957, **21**, 183-186.

23. LANMAN, R. W., & REMMERS, H. H. The "preference" and "discrimination" indices in forced-choice scales. *Educ. & Psychol. Meas.*, 1954, **14**, 541-551.

24. LOEVINGER, J. Theory and techniques of assessment. In P. R. Farnsworth & Q. McNemar (Eds.), *Annual Review of Psychology* (Vol. 10). Palo Alto, Calif.: Annual Reviews, 1959. Pp. 287-316.

25. ROSEN, E. Self appraisal, personal desirability and perceived social desirability of personality traits. *J. Abn. & Soc. Psychol.*, 1956, **52**, 151-158.

26. TRAVERS, R. M. W. A critical review of the validity and rationale of the forced-choice technique. *Psychol. Bull.*, 1951, **48**, 62-70.

27. WIGGINS, J. S., & RUMRILL, C. Social desirability in the MMPI and Welsh's factor scales A and R. *J. Consult. Psychol.*, 1959, **23**, 100-106.

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THE SOCIAL DESIRABILITY OF TRAIT-DESCRIPTIVE TERMS: A COMPARISON OF 17 SAMPLES*

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A. INTRODUCTION

During the past several years a research group at the University of Rochester has conducted a number of studies on the social-desirability (S-D) properties of trait-descriptive adjectives. Although there have been several distinct pathways which we have followed, one of the most basic has been the attempt to determine the constancy or inconstancy of S-D stereotypes for diverse groups and under varying administrative conditions. Since this portion of our work is completed, we believe it worthwhile to move away from the individual study level, to strive for some distance and some globality, and to propose a set of composite generalizations derived from our work. Hence, this paper does not involve the collection of new data; instead it is based upon comparative analyses of data from the entire series of investigations in this area to date. The issues to which this write-up is addressed are as follows: What, if any, are the major differences in S-D stereotypes among various normal and pathological groups, and what are the effects of variations in administrative conditions upon the S-D response?

B. THE RATING TASK

The data to be considered come from nine studies involving 17 combinations of groups and conditions. Certain constants prevailed in each of these investigations. For example, the task posed for all *S*s was that of rating a series of trait-descriptive adjectives, embedded in the hypothetical frame "I am a —— person," on a seven-point scale of social desirability. The scale used was in all instances labelled "very desirable" at point seven, "very undesirable" at point one, and "neither desirable nor undesirable" at point four.

The major variants included the following. Three word lists, consisting of 209, 139, and 118 trait-descriptive adjectives respectively, were used in the several experiments. All words on the shorter lists also appeared on the 209-item version; the former merely eliminated more difficult and obscure words

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as considered necessary when working with less highly educated samples. Although the substance of the instructions for the rating task was held constant, the level of complexity was downgraded for less educated groups. Secondly, three different instructional sets were used: the *social set* (i.e., the frame of reference of people in general), the *personal set* (i.e., ratings of the adjectives in terms of how the respondent personally regarded them), and the *feeling set* (i.e., asking the respondent to indicate how he would feel if someone had just described him by using the particular trait-descriptive adjective in question). Table 1 summarizes the experimental conditions for the various studies. All college samples as well as the novitiates were comparable in age and education, as were the two schizophrenic groups with the hospital controls, the alcoholics, and the sexual deviates. Similarly, the two geriatric groups were roughly equated for these demographic variables.

The analyses to be reported in this paper fall into five categories as follows: 1) correlational analyses, 2) sex differences, 3) differences in rating sets, 4) differences in group means, 5) differences in group variances. For each of these areas, in sequence, we shall present the method of analysis and major findings first. A more integrated discussion of the findings will follow.

C. Methods and Results

1. *Correlational Analyses*

S-D means and variances, separately computed for each of the 17 groups, were available for all trait-descriptive adjectives. For each group, mean S-D ratings were punched onto cards, and a series of correlation matrices were worked out using an IBM "650." Three such matrices, based on group means for the 209-, 139-, and 118-adjective word lists respectively, were run. For the 209-item list, data were available for the nine college groups plus the novitiates (10 $\times$ 10 matrix, and 45 *r*s). For the 139-item list, correlations were based on all groups except the two geriatric samples (15 $\times$ 15 matrix, and 105 *r*s); while for the 118-item list, all groups were included (17 $\times$ 17 matrix and 136 *r*s). Thus, there was a grand total of 286 *r*s among various sets of S-D group means. Many of these were duplicated in the three matrices because groups taking lengthier forms of the test, in so doing, automatically took all items from briefer forms. For example, a correlation for college males under the social set *vs.* college males under the feeling set would have been included in the matrices based on 209, 139, and 118 items.

The net result of the correlational analyses is extraordinarily clear-cut—so much so, in fact, that it would be wasteful to set the findings in tabular form. The 286 correlations were found to range from a *minimum* of .930

TABLE 1
SUMMARY OF TEST CONDITIONS IN NINE S-D STUDIES

Investigator(s)	Study	Group(s)	*N*	Word list	Set	Mean age	Mean education
Cowen (2)	Normative	1. College males	39	209	Social	19	14
		2. College females	28	209	Social	19	14
		3. College total	67	209	Social	19	14
Cowen, Budin, and Budin (6)	Instructional set	4. College males	39	209	Personal	19	14
		5. College females	28	209	Personal	19	14
		6. College total	67	209	Personal	19	14
Cooper and Cowen (1)	Feeling set	7. College males	18	209	Feeling	19	14
		8. College females	28	209	Feeling	19	14
		9. College total	46	209	Feeling	19	14
Cowen, Staiman, and Wolitzky (7)	"Intact" schizophrenics	10. Intact male schizophrenics	40	139	Social	33	12
		11. Male hospital controls	40	139	Social	33	12
Cowen, Staiman Wolitzky, Stiller, Budin, Karras, and Fabrikant (in progress)	Schizophrenics	12. Male schizophrenics	40	139	Social	33	12
Zax, Cowen, Budin, and Biggs (14)	Alcoholics	13. Outpatient alcoholics	40	139	Social	34	12
Cowen and Stricker (4)	Sexual deviates	14. Institutionalized sexual deviates	40	139	Social	34	12
Cowen, Davol, Reimanis, and Stiller (8)	Geriatrics	15. Domiciliated geriatrics	40	118	Social	65	9.2
		16. Community geriatrics	40	118	Social	71	9.8
Zax, Cowen, and Peter (13)	Nuns	17. Novitiates	28	209	Social	21	14

(domiciliated geriatrics *vs.* college females under the "feeling" set [$N = 118$]) to a *maximum* of .994 (college males' "social" set *vs.* college females' "social" set [$N = 209$]). The median r for the total series was .971. With a minimum of 116 *df,* all of these correlations are significant at p .001 or beyond.

2. *Sex Differences*

As is evident from the preceding section, the *relative* S-D ordering of adjectives is highly comparable for males and females. In each of three studies (1, 2, 6) however, significant absolute differences in terms of the directionality of mean S-D ratings were demonstrated between sexes. The basic paradigm for these analyses (and subsequent ones comparing administrative sets and different groups, as well) involved tabulation for each adjective, based on its overall mean S-D level, of whether males or females had the higher mean score. Cowen (2) presents the model for this type of analysis. Following such tabulation, a three-by-two chi square is computed based on positive ($\overline{X}_{\text{S-D}} =$ 5-7), neutral ($\overline{X}_{\text{S-D}} =$ 3-5) and negative ($\overline{X}_{\text{S-D}} =$ 1-3) adjectives. In all three studies noted above, these chi squares were highly significant and reflected an apparently stable tendency for females to rate items more extremely (i.e., higher ratings for positive adjectives and lower ratings for negative adjectives). In like manner, it was found, comparing the sexes on variability of ratings, that females were significantly less variable than males for both the social and personal sets.

3. *Rating Sets*

Again it is clear from the correlational data that the relative ordering of trait-descriptive adjectives on an S-D continuum is highly stable across social, personal, and feeling sets. Nonetheless, nonparametric tests for possible absolute or directional differences among sets demonstrated that such differences did exist. The latter were based on the same type of chi-square analysis used in testing for sex differences. By this method it was determined that both the social set and the feeling set produced significantly more extreme ratings than did the personal set, and that the feeling set in turn produced significantly higher ratings, but only for positive adjectives, than did the social set (1, 6). Additionally, significantly greater variability was manifested under the feeling set than under either of the others. The personal set, in turn, yielded significantly more variable ratings than did the social set (1,6). These set differences in variability were most marked for neutral adjectives, for which responses under the feeling set were maximally variable in comparison to the other sets. The overall significant differences in variability among sets re-

ported above are, in fact, attributable almost exclusively to differences in the middle range when comparing the feeling set to the personal set; in the case of the feeling *vs.* social set, differences are found along the entire S-D continuum, but continue to be strongest in the neutral 3-5 range.

4. *Differences in Group Means*

Analyses reported in this section are confined to 10 of the 17 groups, so as to hold constant differences in administrative set (i.e., social set only). The groups included are as follows: college males (2), "intact" schizophrenics and hospital controls (7), "deteriorated" schizophrenics (unpublished m.s.), outpatient alcoholics (14), institutionalized sexual deviates (4), domiciliated geriatrics and community geriatrics (8). The remaining two groups include females only. These are the college female (2) and the novitiates (13).

Dealing initially only with the eight male subgroups and confining the analysis to the 118-item list (since this was the largest number which all eight groups had rated in common), we computed a discrepancy score (D score) for each group, for each adjective, based on the difference without respect to sign between its mean for that adjective and the mean of the college males under the social set, which was used as an arbitrary anchor point. On this basis, it was possible to compute an average D score for each of the remaining seven groups, reflecting the overall proximity of that group's mean S-D ratings to those of the college sample. Figure 1 presents the average D scores for the various groups and indicates graphically their relative proximity to the college group on this dimension. It can be seen, keeping the original seven-point S-D scale in mind, that these D scores range from a minimum of .287 for the "intact" schizophrenics to a maximum of .467 for the domiciliated geriatrics. A simple analysis of variance, comparing differences in mean D scores for the seven groups, was carried out. The results of this analysis are summarized in Table 2. Because it is clear that there are significant group differences on this measure, it was considered appropriate to run t ratios comparing each of the seven groups individually to each other. Such a procedure yields a total of 21 t ratios. These are presented in Table 3, from which it can be seen that nine reach significance at p .05 or beyond. The direction of greater proximity to the college group may be determined from Figure 1. An analysis comparable to the one described could not of course be done for female groups because, besides college females, data were available for only one female group (i.e., the novitiates).

A second, and quite different, approach to the question of absolute differences among groups in their S-D ratings involves application of a nonpara-

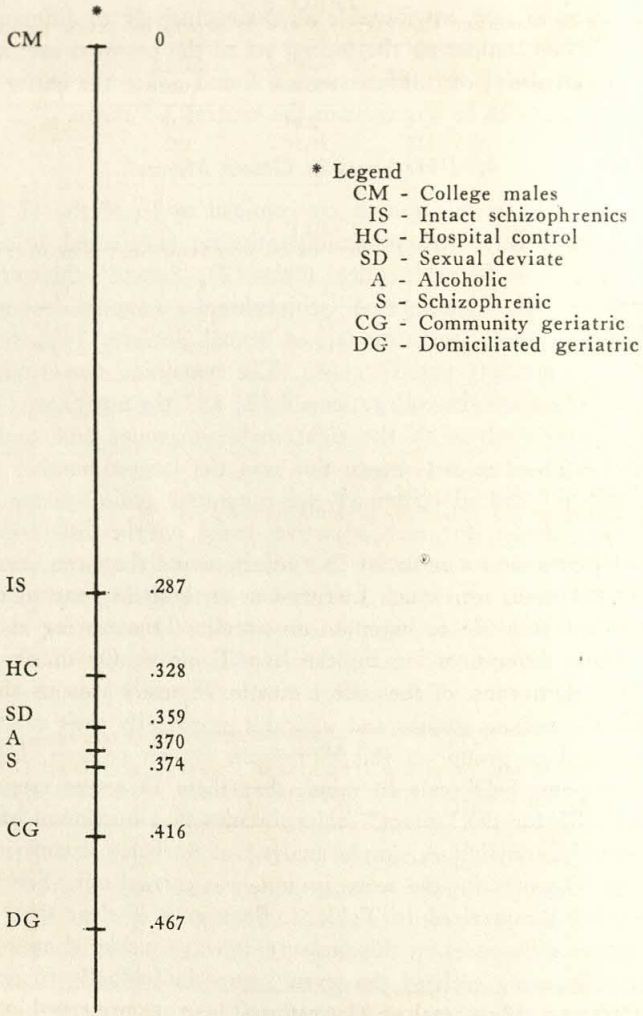


FIGURE 1
AVERAGE D SCORES OF SIX MALE GROUPS BASED ON S-D NORMS FOR COLLEGE MALES

metric test of directionality. By use of such a technique, each group included in the preceding analysis was compared to all others ($N = 28$ comparisons) by tabulating for all adjectives which of the two groups in any given comparison had the higher mean S-D rating. These tabulations were then (as indicated in a prior section of this paper) pooled into positive, neutral, and

TABLE 2
ANALYSIS OF VARIANCE COMPARING MEAN D SCORES OF SEVEN SUBGROUPS

Source of variation	*df*	Sum of squares	Mean square	*F*	*p*
Between groups	6	2.41	.402	3.76	.01
Within groups	819	87.36	.107		
Total	825				

TABLE 3
t RATIOS COMPARING MEAN S-D D-SCORES OF GROUPS FROM MEANS OF COLLEGE MALES

	HC*	SD	A	S	CG	DG
IS	1.21[a]	2.19**	2.49**	2.32**	3.11**	4.05**
HC		0.87	1.16	0.10	2.00**	2.97**
SD			0.31	0.38	1.33	2.34**
A				0.10	1.05	2.08**
S					0.89	1.87
CG						0.97

* Legend for groups given in Figure 1.
** Significant at *p* .05 or beyond.
[a] This *t* based on 139 adjectives is significant at *p* .05 (7).

negative categories, and a series of 28 three-by-two chi squares, based on the resultant distribution, were run. Twenty-one of these 28 tests yielded differences significant at *p* .05 or beyond (almost all of these being at *p* .001 or beyond). These differences are indicated in Table 4. Obviously, the mere presence of a significant χ^2 does not indicate the reason for its significance.

TABLE 4
SUMMARY OF CHI-SQUARE TESTS FOR DIRECTIONAL DIFFERENCES AMONG GROUP MEANS

	IS	HC	SD	A	S	CG	DG
CM*	ns**	ns	s	s	ns	s	s
IS		ns	s	s	ns	s	s
HC			s	s	ns	s	s
SD				ns	s	s	s
A					s	s	s
S						s	s
CG							s

* CM represents college males; otherwise legend is same as that presented in Figure 1.
** ns indicates χ^2 is nonsignificant; s indicates χ^2 significant at *p* .05 or beyond.

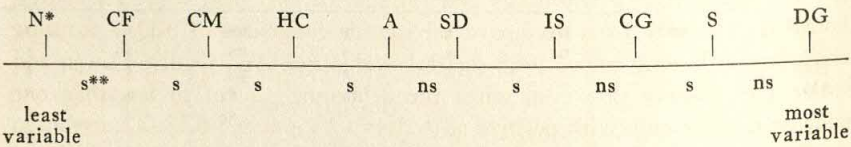
Both to conserve space and because some portions of this global analysis are presented elsewhere (4, 7, 8, 14), the latter will be sketched out only briefly here. In the main there are no systematic directional differences in S-D means among the college, hospital control, and two schizophrenic samples. These four groups, when compared either to the alcoholics or to the sexual deviates

(the latter two groups being strikingly similar to each other), give more extreme S-D ratings. The two geriatric groups give significantly more positive ratings than all other groups, this difference being significantly stronger in the domiciliated geriatrics. When compared to all groups save the alcoholics and sexual deviates, the foregoing differences are evident along the full range of the S-D continuum. However, even though the oldster groups have higher *overall* S-D ratings than do the alcoholics and sexual deviates, the latter groups rate negative adjectives more favorably. Thus, the overall higher S-D ratings by the geriatric samples reflect in these cases the heavy contribution of positive and neutral items.

It may be recalled from the earlier section on sex differences that college females had significantly more extreme S-D ratings than did college males. Hence, college females stand in essentially the same relationship to the seven other male groups in the present analysis as do college males, only more so. To this we may now add that the novitiate sample had far more extreme S-D ratings ($p = .001$) than did college females (13).

5. *Group Differences in Variability*

Again by use of a nonparametric analysis of directionality, each of the eight male-subject groups plus the two female samples was compared to all others by tabulating for all adjectives which group had higher rating variability. This procedure yielded a total of 45 χ^2s. Figure 2 depicts graphically the resultant group differences in variability. Novitiates are clearly the least variable of the groups studied to date, whereas the domiciliated geriatrics are the most variable.



* Legend same as preceding ones, except for the addition of N (novitiate) and CF (college females).

** s between two markers indicates that the difference is significant; ns indicates that it is nonsignificant.

FIGURE 2
DIFFERENCES IN S-D RATING VARIABILITY AMONG TEN GROUPS

D. DISCUSSION

It is somewhat unusual in the authors' experience to see a series of 286 correlations run and to find the lowest to be .930. Granting that there is a

certain proportion of overlap and of duplication amongst these, we are nevertheless led to the conclusion that there is a remarkable constancy, under diverse circumstances and by diverse groups, in the *relative* ordering of trait-descriptive adjectives along an S-D continuum. In terms of this relative ordering, the S-D perceptions of males are virtually identical to those of females, changes in rating instructions scarcely affect the task at hand, and differences among such ostensibly different groups as college students, hospitalized schizophrenics, institutionalized sexual deviates, nuns, outpatient alcoholics, and domiciliated geriatrics are negligible. The perception of society's standards of what is good and what is bad is apparently so fundamental as to be unaffected by such otherwise potent variables as age, contact with reality, sex, institutionalization, education, etc.

There is a compelling stability to these findings, suggesting that the S-D response is one which is acquired very early and which becomes deeply ingrained and virtually unmodifiable as we grow older. Perhaps it is that S-D learnings accompany (and possibly in some cases precede) the establishment of denotative meanings in our language. Such a strong position may be premature to the extent that the groups included in this survey are biased toward (though not limited to) the upper end of the education continuum. The consistency of the findings to date, however, leads to the belief that it is the response itself which is basic, and, assuming that groups are sufficiently well educated to understand the meaning of a given word, they will evaluate it very similarly on this dimension.

The present findings are buttressed by the results of two other investigations not included in the present survey. Cowen and Tongas (5) report a correlation of .96 between S-D ratings and ratings for the ideal self. The latter, though it gets away from the use of the specific designator of S-D, is a rating which is also heavily tinged with societal evaluation. And finally, Cowen and Stiller (3) observe that even when the S-D range is cut to less than one point by dealing only with positive adjectives ($\overline{X}_{\text{S-D}} = 5.5\text{-}6.5$), a correlation of .80 between S-D ratings made under such conditions and the full list ratings is found.

Other investigators (9, 10, 11, 12) report correlations in S-D ratings across diverse groups clustering around .80. This figure is significantly lower than the *r*s reported in the present study. However, it should be noted that our work has been confined to the level of the trait-descriptive adjective embedded in the hypothetical-but-constant-frame "I am a —— person," in contrast to the studies by Edwards, Fujita, Klett and Yaukey, and Lovaas which were based on S-D ratings of actual personality-test items. Our belief is that the

former may be a "purer" measure in the sense of yielding ratings which are determined solely by attributes of the specific adjective being considered, rather than by possibly extraneous item-writing variance over and beyond the substantive or content aspects of the statement being rated. Whatever the ultimate explanation, our own conclusion is clear enough, and that is that relative S-D perceptions are extraordinarily constant across diverse groups and conditions.

It is indeed surprising, in the face of such relative stability, that consistent and sometimes striking differences in the *absolute* S-D ratings of trait-descriptive adjectives are observed for different groups and conditions. For example, there can be little question but that females see positive concepts as more positive and negative concepts as more negative than do males under a variety of rating instructions. Elsewhere (2), this datum has been interpreted as evidence favoring the view of females as more extreme "carriers of the culture" than are males. Other such strong absolute differences among groups are to be found in the data, some of which make perfectly good sense, whereas others do not. That the most extremely positive and extremely negative S-D ratings yet encountered are given by nuns is plausible. This group, almost by definition, is one with a very homogeneous, strongly indoctrinated, and stoutly maintained evaluative frame. In like manner, the fact that our two character-disorder groups (the alcoholics and the sexual deviates) respond similarly to each other, and are also differentiated from all the other groups by their avoidance of extreme response, and a clinging to the middle range of the S-D scale, makes good sense, as we commented elsewhere (4, 14). Similarly, the elevation of the ratings of the geriatric samples at all points on the S-D continuum, in contrast to other groups, is quite understandable. This may perhaps be viewed as an instance of struggling to see the world through rose-colored glasses and as a type of "whistling in the dark" and trying to reassure oneself that all is well (8).

What all this seems to add up to is the fact that the S-D response does not exist *in vacuo*. Without question, markedly different groups have rated adjectives on this dimension with a high degree of constancy. Equally true, however, there are persistent absolute differences in such ratings which appear to reflect idiosyncratic group response tendencies. These response tendencies act to set the boundaries or limits of the S-D ratings. Once these broad bounds are established, the relative position of the adjectives remains fixed. The response set component of our findings should not be overlooked; in fact, to us it represents an intriguing point of departure for additional research. If groups with distinguishing personality or behavioral attributes can be identified,

can we, in a construct validity sense, effectively make predictions to a variety of situations and circumstances of which the S-D rating task is one specific exemplar? The consistent differentiability of groups in the present task situation underscores the potential promise of such an approach. In the case of one of our groups, such a cross-task prediction has already been explored with encouraging findings (13).

On the other hand, not all of our results fall into a neat and consistent explanatory framework. Illustratively, when we used our college male norms as an anchor point, the "intact" schizophrenics were found to depart significantly less from these norms than any other male group. During the consideration of this renegade datum (7), the thesis was developed that this group responded as it did because of its heavily saturated treatment program with an overexposure to the middle-class college-type values of the professional personnel conducting that program. Further research seeking to verify predictions which are the logical outgrowth of such an interpretation is in progress. One aspect of this work involved the collection of data (used in this report) for a second, demographically comparable but less intact, schizophrenic group which was exposed to a less heavily saturated treatment program. This second group "behaved" more as we might have anticipated.

Two notes of caution need be inserted at the very outset in connection with the interpretation of the variability data. First, because we are dealing with a finite and limited rating scale, extremeness of rating tends to operate as a limiting factor on variability. In general, those groups with the most extreme S-D means show the least variability. Secondly, it is not fully appropriate to compare groups on this measure without keeping their educational status in mind. Lower education may be presumed to increase the likelihood of unfamiliarity with word meanings in individual *S*s (even though the preponderant majority of *S*s in any given group were familiar with the meaning of the words on the list they were to rate). However, to the extent that unfamiliarity of word meaning exists it would operate to increase randomness of rating and thus would spuriously inflate rating variance.

Our three most highly educated groups were our least variable ones. Of these, the two female groups—contradicting popular beliefs about the uncertainty and fickleness of the second sex—were the less variable, and the novitiates—whom we have already conceptualized as a highly homogeneous group in terms of values and standards—were the least variable of all. A second cluster of demographically equated groups were all more variable than the initial three groups. Within this second cluster, least variability was found in our hospital controls (normals); followed first by the sexual deviates and

the alcoholics who, as on all other measures, were not different from each other, and then by the "intact" schizophrenics; and finally, the less intact schizophrenic sample. That maximal variability for this cluster of groups should have been found in the schizophrenic samples is, as noted elsewhere (7), entirely consistent with the preponderant weight of literature in this area. Most variable as a cluster were the two geriatric samples which, of course, were substantially less well educated than any of the other groups. Of the two, significantly more variability was found in the domiciliated sample. It is instructive to note that the less intact schizophrenic group, notwithstanding their considerably higher education, scores as directionally more variable than the community geriatrics, thus reinforcing, once again, the view that heterogeneity and variability are hallmarks of the schizophrenic reaction.

We consider that the present report establishes with some considerable firmness the fact that S-D perceptions among seemingly very different groups are extraordinarily stable—well-nigh universal, in fact—when considered in terms of relative orderings. Absolute differences among groups—and these occur frequently and with consistency—are to be viewed as manifestations of broader response tendencies which may be expected to have correlates and extensions in a variety of other situations.

E. Summary

Comparisons have been made of the social-desirability (S-D) rating behavior of a number of groups of respondents representing a variety of normal and pathological groups, and taking the rating task under a variety of administrative sets. In all, nearly 500 subjects are included in these analyses.

An extensive series of correlational analyses demonstrates conclusively that there is an extremely high degree of correspondence in the relative ordering of trait-descriptive adjectives along a social-desirability continuum, between sexes, across differing administrative conditions, and among normal and pathological groups. This notwithstanding, consistent absolute differences in mean S-D ratings among groups were found. Thus, novitiates rated adjectives more extremely than did any other group; character disorders, by contrast, tended to cling to the middle regions of the scale more than any of the contrast groups, and geriatric groups rated more favorably all along the continuum than did other samples. Schizophrenics and geriatrics were found to be the most variable subgroups studied. These absolute differences were seen as differentiating response characteristics setting the limits within which the fixed relative ordering of concepts on the S-D continuum takes place for any given group.

References

1. Cooper, A., & Cowen, E. L. The social desirability of trait descriptive terms: A study of feeling reactions to adjective descriptions. *J. Soc. Psychol.*, 1962, **56**, 207-215.
2. Cowen, E. L. The social desirability of trait descriptive terms: Preliminary norms and sex differences. *J. Soc. Psychol.*, 1961, **53**, 225-233.
3. Cowen, E. L., & Stiller, A. The social desirability of trait descriptive terms: Order and context effects. *Can. J. Psychol.*, 1959, **13**, 193-199.
4. Cowen, E. L., & Stricker, G. The social desirability of trait descriptive terms: Applications to sexual deviates. *J. Soc. Psychol.*, 1963, **59**, 307-315.
5. Cowen, E. L., & Tongas, P. The social desirability of trait descriptive terms: Applications to a self concept inventory. *J. Consult. Psychol.*, 1959, **23**, 361-365.
6. Cowen, E. L., Budin, W., & Budin, F. A. The social desirability of trait descriptive terms: A variation in instructional set. *J. Soc. Psychol.*, 1961, **53**, 317-323.
7. Cowen, E. L., Staiman, M. G., & Wolitzky, D. The social desirability of trait descriptive terms: Applications to a schizophrenic sample. *J. Soc. Psychol.*, 1961, **54**, 37-45.
8. Cowen, E. L., Davol, S., Reimanis, G., & Stiller, A. The social desirability of trait descriptive terms: Two geriatric samples. *J. Soc. Psychol.*, 1962, **56**, 217-225.
9. Edwards, A. L. The Social Desirability Variable in Personality Assessment and Research. New York: Dryden, 1957.
10. Fujita, B. Applicability of Edwards Personal Preference Schedule to Nisei. *Psychol. Rep.* 1957, **3**, 518-519.
11. Klett, C. J., & Yaukey, D. N. A cross-cultural comparison of judgments of social desirability. *J. Soc. Psychol.*, 1959, **49**, 19-26.
12. Lovaas, O. I. Social desirability ratings of personality variables by Norwegian and American college students. *J. Abn. & Soc. Psychol.*, 1958, **57**, 124.
13. Zax, M., Cowen, E. L., & Peter, S. M. A comparative study of novitiate and college females using the response set approach. *J. Abn. & Soc. Psychol.*, 1963, **66**, 369-375.
14. Zax, M., Cowen, E. L., Budin, W., & Biggs, C. F. The social desirability of trait descriptive terms: Application to an alcoholic sample. *J. Soc. Psychol.*, 1962, **56**, 21-27.

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COMMUNICATION AND OPINION AS A FUNCTION OF MEMBER ATTRACTIVENESS AND OPINION DISCREPANCY*

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A. INTRODUCTION

In recent years there has been a great deal of interest in the conditions which influence interaction in face-to-face situations. This concern has evoked some sophisticated theorizing, as well as a wide variety of ingenious research. In order to reduce to manageable terms the great number of possibly significant variables, investigators have often chosen to focus upon quite minimal social relationships, either by examining very small groups (dyads, triads, tetrads, etc.), or by limiting themselves to a very few basic conditions, or both.

Among the leaders in this enterprise have been Theodore Newcomb (8, 9) and Leon Festinger (2, 3, 4).

Newcomb (8), following Heider (6), presents a model for a dyadic situation, the AtoBreX system. It is impossible here to describe the details of his careful analysis of this situation, but we shall indicate certain salient points. Briefly, he shows that communicative acts take place within a system involving two actors, A and B, and an object, X. These components are interrelated as a function of relations between A and B (one of which is degree of attraction), and of the kind and intensity of orientation (or attitude) of each member towards X, and of the perceptions that arise in A and B of their own and the other's acts. These conditions are viewed as forces within a system, and they represent strains that instigate the actor(s) to move towards greater symmetry with reference one to the other and/or to X. Thus, when a system like this exists (i.e., when A's orientation to either X or B is contingent upon B's orientation to X), A "is motivated to influence and/or inform himself about B's orientation towards X." Communication typically ensues. Tendencies toward symmetry, mediated by communicative acts, are

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a function, among other conditions, of perceived discrepancies in the system, of attraction between A and B, and of the intensity of attitude toward X.

In general, Newcomb's theory is most explicit with regard to communicative acts. The resulting effects on "symmetry" are more vaguely defined and might be recognized in several ways, as similarity of opinion, similarity in the intensity of attitude toward X, similarity in the perceptions of A and B of each other, etc.

Festinger (3) deals with essentially the same processes, but does not necessarily confine himself to dyadic situations. His nine propositions (with corollaries and derivations) seek to work out systematically the relations among the members (perceptions of their own and others' abilities and opinions), communicative processes ("pressures toward uniformity"), the importance of or attraction toward the group, and change in opinion or ability resulting from interaction. He states, for example, that "the existence of a discrepancy in a group with respect to opinions or abilities will lead to action on the part of members of that group to reduce the discrepancy." Further, "when a discrepancy exists with respect to opinions or abilities there will be tendencies to change one's own position so as to move closer to others in the group." And, also, there may be a tendency to change others to "bring them closer to oneself" (5). With regard to attraction, Festinger proposes that "the stronger the attraction to the group the stronger will be the pressure toward uniformity concerning abilities and opinions within the group." These processes vary, also, with the relevance of the opinion or ability to the group and with the individual's position in relation to the group mode, because persons close to the mode are said to display stronger tendencies to change others, but weaker tendencies to narrow the range of comparison with others and to change their own opinion. Thus, the degree of discrepancy in opinion or ability has an important bearing upon interaction, for pressures to change toward greater uniformity decrease with increased discrepancy between participants.

Although so brief a reference to these theories cannot do justice to the many interesting implications contained therein, it is clear that certain affinities exist between them. In particular, we find that discrepancies in orientation or attitude toward an object and attraction are treated as important determinants of communicative acts and of change in the participants. There may be closer correspondence between the two theories on the discrepancy variable than on attraction because, in the latter case, "attraction to the group" (Festinger) may not be the same as attraction of A towards B, or *vice versa*. Some conditions presumed significant for a larger group would probably not enter into a dyad (at least not in the same way); for example,

relation to the mode of the group reduces to discrepancy between the two members of the dyad.

Considerable evidence exists, as pointed out by both Newcomb and Festinger, in support of various points in the theories. But, because of parallel features in them, there is need to draw them together. The experiment to be reported is an effort to move in this direction. We elected to study only dyads and to choose just two experimental variables and two dependent variables. By these means, we felt that it would be possible to focus upon the central features of the two theories.

As independent variables we chose mutually perceived attraction (perhaps especially clear in Newcomb) and discrepancy in opinion (perhaps particularly salient in Festinger). As dependent variables we selected communicative acts (explicitly emphasized by Newcomb) and opinion change (stressed by Festinger).

Putting together the kinds of reasoning presented above, we arrived at the following hypotheses:

I. The greater the discrepancy in the orientations of two persons toward an object with reference to which they are interacting, the more frequent will be their communicative acts.

II. The greater the attraction between two persons, the more numerous will be their communicative acts.

III. The greater the discrepancy in the orientations of two persons toward an object with reference to which they are interacting, the greater will be their resistance to changing opinion toward uniformity.

IV. The greater the attraction between two persons, the less will be their resistance to changing opinion toward uniformity.

We refrain from linking these hypotheses definitely with either theory, although the first two are regarded as derivable chiefly from Newcomb, and the second two from Festinger.

Concretely, we predict that, in dyads, more communicative acts will occur under conditions of high mutually perceived attraction and of marked difference in opinion than under conditions of low attraction and of similarity of opinion. Further, there will be a greater convergence of opinion in pairs of similar orientation and high mutually perceived attraction than in pairs where the members differ in opinion and in pairs low in attraction.

Actually, hypotheses could be developed for the interaction between attraction and opinion discrepancy, but such statements do not appear to be strictly justified by the original theoretical statements employed as a point of depar-

ture. Interaction effects, however, prove to be very important, as will be shown below.

B. Method

1. *Subjects*

One hundred and fifty-six men and women students enrolled in an introductory-psychology class were administered the Edwards Personal Preference Schedule (1) and the Thurstone and Chave "Experimental Study of Attitude Toward the Church" (10). On the basis of scores on the latter scale, the class members were divided into two groups of pairs of similar sex on the following basis: (*a*) similarity of orientation toward the church, and (*b*) wide discrepancy in orientation toward the church. This separation of pair members represented the manipulation of the orientation variable, as required for Hypotheses I and III.

Forty pairs of *S*s, 20 pairs with similar orientation and 20 with wide discrepancy in orientation, were then drawn as randomly as possible from the experimental pool. Some *S*s had to be rematched and called on subsequent days because of original inability or unwillingness to participate.

2. *Procedure*

To recruit the two groups of 20 pairs, the experimenter (*E*) said to the members of the class:

> You may remember that you recently took a personality test. This was the Edwards Personal Preference Schedule. This test measured a number of personality variables. We now know something about your similarities and differences—how, in fact, you are likely to behave when placed in a social relationship with any one of your classmates.
>
> To test some hypotheses based on this personality test, I need your cooperation in helping me to conduct a short experiment. I hope it will be possible for you to spend about twenty-five minutes with me right after this class or after one of the following classes which end at three o'clock. This will be a one-time meeting. Your part in the experiment will be simple and easy, but will require your honest efforts. As the experiment is aimed at measuring group reactions, there will be no reference to anyone as an individual—everyone will remain anonymous throughout.
>
> Because the experiment calls for matching each one of you with someone else in the class, I have already arranged you into pairs. If those of you whose names I call will kindly remain after class, I will provide the special instructions necessary for your participation. Later, when the data have been studied, and if time permits, I will explain the results of the experiment and you will understand the part you played in making it possible. . . . Now I will sound out the names of those I hope will remain today.

When the *S*s had been selected, each group of 20 pairs was further subdivided and given differential instructions designed to induce in 10 pairs *high* mutually perceived attractiveness, and in 10 pairs *low* mutually perceived attractiveness (as required by Hypotheses II and IV). Four samples were thus formed (Table 1). The pairs of *S*s were seen in a private room,

TABLE 1
EXPERIMENTAL CONDITIONS AND GROUPS

Induced attractiveness	Orientation toward X: Similar orientation	Orientation toward X: Discrepant orientation
High Mutually Perceived Attractiveness	Group II $N = 10$ pairs	Group I $N = 10$ pairs
Low Mutually Perceived Attractiveness	Group IV $N = 10$ pairs	Group III $N = 10$ pairs

individually or in groups. To those in whom high attractiveness was to be induced, *E* said:

> As explained to the class, I wish to determine how a student with a certain kind of a personality will behave when matched with another. All of you have been paired with someone of your own sex who appears to be *almost exactly like you.* Because of this close resemblance you should, for example, find it easy to communicate, to discuss a subject. Your understanding of what your partner says should be sharp and clear. This should permit considerable give-and-take. In that you are *alike* you may be described as being tuned-in, as being sympatico.

The instructions were altered slightly for those in whom low attractiveness was to be induced, as follows:

> As explained to the class, I wish to determine how a student with a certain kind of a personality will behave when matched with another. All of you have been paired with someone of your own sex who appears to be *distinctly different from you.* Because of this dissimilarity you should, for example, find it difficult to communicate, to discuss a subject easily. Your understanding of what the other says will not be sharp. This in turn will produce a certain amount of tension which will interfere with your give-and-take. In that you are *different* you may be described as not being tuned-in, as *not* being sympatico.

Immediately following these instructions, the pair members were told to communicate with each other about their attitude toward the church, as follows:

> Here are your instructions: you have been arranged in pairs and each pair has been given a composition book with your names appearing at the top. Please check and be sure that you are sitting with the student assigned. Are there any discrepancies?
>
> When I give the signal, you are to communicate with each other by writing a statement of some kind in the composition book. At the end of each statement please draw a line and pass the booklet to your partner, who will read what you have written and then write his or her response. You will pass the book back and forth as many times as you have occasion to write.
>
> I am going to ask you to communicate with each other about your attitude toward the church. In this discussion each of you will present his or her point-of-view honestly with the thought of getting your idea clearly across. Your statement can be in the form of a declaration of opinion, a question, or you may criticize your partner's position if you wish to disagree or argue your point.
>
> Have you any questions? . . . Then will the person whose name appears at the top of the booklet please begin. The time for discussion will be short; so keep your messages brief. This timer bell will ring when the time for communication is up.

Time was called after 12 minutes of interaction, and the Thurstone and Chave scale was readministered to the pair members for the second time. The dissimulation about the alleged matching on the basis of the Edwards test was then explained.

C. Results

Before testing the hypotheses, the equivalence of the groups with respect to certain possibly confounding conditions was ascertained. One of these was "wordiness," or a tendency for some *S*s to communicate at greater length than others. As a check, appropriate two-tailed tests were made of the number of words written by the pair members to an original question added to the face sheet of the Thurstone and Chave questionnaire. This item asked the *S*s to reveal the name of their church and to expound their beliefs about the church. Two-way analysis of variance for treatment and mean differences among groups indicated no significant differences.

Another possible source of error lies in the uneven assignment of male and female pairs to the four experimental treatments, but differences in communicative frequency and in opinion change between the sexes proved to be nonsignificant.

Personality differences between males and females were not explored systematically. However, the Edwards Personal Preference Schedule scores, employed in establishing the perceived attractiveness variable, yielded very

small differences among the four experimental groups, the highest critical ratio lying at about the 50 per cent level of confidence.

1. *Communicative Acts*

Several measures of the quantity of communication could be developed from the data. The three that were utilized may be defined as follows:

a. Number of messages. This signifies the total number of times that the booklet was passed from one member of a pair to the other, regardless of length, content, etc.

TABLE 2
TWO-WAY ANALYSES OF VARIANCE OF THREE MEASURES OF COMMUNICATIVE FREQUENCY AND OF CHANGE IN OPINION

Source: Experimental condition	Dependent variable	Sum of squares	*df*	Estimate	*F*	Hypothesis
Rows						
Mutually perceived attractiveness	a. Communicative acts					
	No. messages	55.22	1	55.22	4.41*	II
	No. words	43,427.90	1	43,427.90	15.89***	II
	No. declarations	152.10	1	152.10	9.25**	II
	b. Opinion change	8,791.10	1	8,791.10	1.05	IV
Columns						
Orientation toward X	a. Communicative acts					
	No. messages	.62	1	.62	nil	I
	No. words	4,161.60	1	4,161.60	1.52	I
	No. declarations	16.90	1	16.90	1.03	I
	b. Opinion change	89,012.90	1	89,012.90	10.67**	III
Interaction						
Between groups	a. Communicative acts					
	No. messages	.03	1	.03	nil	
	No. words	479.80	1	479.80	.18	
	No. declarations	1.20	1	1.20	.07	
	b. Opinion change	21,762.10	1	21,762.10	2.61	
Residual						
Individuals within subclasses	a. Communicative acts					
	No. messages	451.10	36	12.55		
	No. words	108,394.60	36	2,733.17		
	No. declarations	591.80	36	16.44		
	b. Opinion change	300,472.29	36	8,346.44		
Total	a. Communicative acts					
	No. messages	506.97	39			
	No. words	156,463.90	39			
	No. declarations	762.40	39			
	b. Opinion change	420,044.80	39			

Note: At $p = .05$, $F = 4.11$ (single-tailed); at $p = .01$, $F = 7.39$ (single-tailed); at $p = .001$, $F = 13.29$ (single-tailed).

* $p < .05$ in predicted direction.

** $p < .01$ in predicted direction.

*** $p < .001$ in predicted direction.

b. Number of words. This is simply the sum of separate words contained in the pair's communications.

c. Number of declarations. This refers to evaluative statements evoking agreement, disagreement, question, or neutral comment. It would exclude, therefore, all direct questions.

Tables 2 and 3 summarize the analysis. It may be seen that all three of the communicative-act measures show a significant relation to attractiveness (Table 2), but that *number of messages* does not differentiate groups at the 5 per cent level of significance (Table 3). None of these three measures bears a significant relation to *orientation discrepancy* (Table 2).

TABLE 3
COMMUNICATIVE ACTS AND OPINION CHANGE IN RELATION TO PERCEIVED ATTRACTIVENESS AND DISCREPANCY IN ORIENTATION (MEANS)

Perceived attractiveness of pairs	Measure	Orientation toward X of pair members: Similar	Discrepant
		Group II	Group I
High attraction	a. Communicative acts		
	No. messages	8.3	8.5*
	No. words	256.0**	227.0**
	No. declarations	13.7**	12.8***
	b. Opinion change	58.0	—83.0****
		Group IV	Group III
Low attraction	a. Communicative acts		
	No. messages	5.9	6.2
	No. words	181.5	169.7
	No. declarations	10.2	8.5
	b. Opinion change	41.0	—6.7

* *Vs.* IV, $p > .05$.
** *Vs.* III and IV, $p < .05$, or better.
*** *Vs.* III, $p < .05$.
**** *Vs.* II, III, and IV, $p < .05$, or better.

2. *Opinion Change*

The second dimension of interaction behavior was the difference in scores on the Thurstone-Chave questionnaire administered before and after discussion. This measure is significantly related to discrepancy in orientation, but not to mutually perceived attractiveness (Table 2). In addition, there are important differences between rows, which require interpretation (Table 3).

The original hypotheses formulate general relationships between experimental variables, but it is apparent that the conditions may be combined to yield a more specific set of predictions, having to do with the properties

of pairs within each cell. Table 4 sets forth these logically derived expectations. If we use signs to designate the hypothesized effects, they combine in the manner shown. Since we do not know how to weight the variables,

TABLE 4
PREDICTIONS RESULTING FROM THE COMBINATION OF CONDITIONS

Perceived attractiveness	Orientation: Similar	Orientation: Discrepant	Hypothesized effect
High	Group II communicative acts (− +): Fewer	Group I communicative acts (+ +): *Most*	More communicative acts (+)
	Opinion change (+ +): *Most*	Opinion change (− +): Less	Less resistance to changing opinion toward uniformity (+)
Low	Group IV communicative acts: (− −): *Least*	Group III communicative acts: (+ −): More	Fewer communicative acts (−)
	Opinion change: (+ −): Less	Opinion change: (− −): *Least*	More resistance to changing opinion toward uniformity (−)
Hypothesized effect	Fewer communicative acts (−). Less resistance to changing opinion toward uniformity (+).	More communicative acts (+). More resistance to changing opinion toward uniformity (−).	

only the unequivocal expectations are indicated. This leads to the following predictions: (*a*) Group I should manifest the largest number of communicative acts, (*b*) Group II should display the most change in opinion towards uniformity, (*c*) Group III should yield the least change in opinion toward uniformity, and (*d*) Group IV should engage in the least number of communicative acts.

A glance at Table 3 will show how these expectations are borne out. In the case of communicative acts, no significant differences exist between experimental groups which differ in orientation. However, in absolute terms, the *number of messages* agrees with prediction. For the other two measures, there is a reversal between Groups I and II, and between Groups III and IV. In general, therefore, the originally hypothesized relation to the attraction variable holds, but this is largely independent of orientation.

An unanticipated characteristic of the instructions presented to induce

perceived attractiveness complicates interpretation of the results. Under the "high" attraction condition, *S*s were told that it should be easy for them to communicate, whereas the opposite statement was contained in the "low" attraction instructions. Thus, although much greater emphasis was placed upon attraction, it is possible that there was some tendency for perceived ease or difficulty of communication to influence interaction, as well. If this were the case, then differences between the "high" and "low" attraction conditions might well be greater in communicative acts than in opinion change. Reference to Table 3 will show that this occurs to some extent. Comparison of Tables 3 and 4, however, suggests that the hypothesized effect of attraction is probably reduced, rather than eliminated, because "number of messages"—probably the best measure of communicative acts in this situation—agrees with predictions. Further research could clarify the matter by removing from the attraction condition any reference to communication.

With respect to opinion change, we encounter a special problem, not anticipated originally. Two kinds of pairs (I and III) actually manifest a *negative change*. This means that the members of the pairs moved *farther apart* in their opinions following the discussion. If, not unreasonably, we interpret this as more resistance to change toward uniformity (as a result of the partner's influence), then the interpretation is similar to that for communicative acts. Group II *does* change most in a positive direction (i.e., toward uniformity), although the differences from Groups III and IV are not significant. On the other hand, Groups I and III present a rather different picture, because the former group, rather than the latter, changes most in a negative direction (displays most resistance to change toward uniformity in this sense), whereas the latter shows only a small negative change (and thus there was little change of any sort—resistance to change, surely, but significantly different from that displayed in Group I). Again, therefore, the originally hypothesized effect is borne out (i.e., between columns), but attraction evidently influences the character of this effect.

D. Discussion

The foregoing analysis discloses that two of the hypotheses are supported and that two are not. Discrepancy in orientation is associated with resistance to change in opinion toward uniformity (Hypothesis III—that is, persons move closer to agreement when they hold similar opinions), but discrepancy in orientation is not associated with increased communicative activity (Hypothesis I). Furthermore, high mutually perceived attraction is associated

with increased communication (Hypothesis II), but not to significant change in opinion toward uniformity (Hypothesis IV).

It would appear that opinion discrepancy and attraction operate differently, and perhaps in opposition to each other. The one has an effect upon opinion change, the other upon influence attempts. It is apparently inappropriate, therefore, to treat these two sets of relationships as if they were similar. Festinger (4), for example, implies that they are. Assuming, as appears reasonable, that our "opinion discrepancy" may be regarded as a condition promoting cognitive dissonance, the following statement is pertinent:

> Since all three of these processes, namely, changing one's own opinion, attempting to influence others, and attributing noncomparability to others, may potentially reduce dissonance, *one would expect to see all of them intensified in degree* as the magnitude of the dissonance increases. Thus, *as the magnitude of difference of opinion increased,* as the relevance of the opinion to the group increased, *as the attraction to the group increased,* and as the number of other cognitive elements consonant with the opinion decreased, *one would expect greater tendencies to change one's own opinion* in response to disagreement, *greater effort expended at influencing those who disagreed* (especially those who disagreed most), and a greater tendency to make those who disagreed noncomparable (4, p. 183; italics ours).

There are some additional variables in the foregoing statement that should be brought systematically into the experiment. But probably they would merely further complicate interpretation. Our results suggest that reduction in cognitive dissonance is manifested in significantly different ways under different conditions, because properties like attraction and discrepancy in opinion were not alike in their effects. Effort to reduce dissonance may well be a meaningful way to look at the kind of interaction studied here, but to assume that its different expressions are alike does not appear to be correct.

There are at least two different processes going on in group discussion—namely, those having to do with opinion and those involving attempts to communicate with another person. Our results strongly suggest that only the first of these processes is significantly related to discrepancy in opinion (or cognitive dissonance). In contrast, differences in attraction are associated with frequency of communicative acts, but not with change in opinion.

In general, it appears that the theories of both Newcomb and Festinger have been partially confirmed. Once we separate the effects of attraction and discrepancy in opinion, we find that each is associated with a different effect of interaction. At least in dyads, high mutually perceived attraction generates more communicative acts than occur in pairs marked by low

attraction, but apparently has little to do with opinions held following interaction. On the other hand, opinion change depends upon initial discrepancy in opinion, for there greater uniformity is brought about by conditions of low than of high discrepancy, although frequency of communicative activity seems to be about the same under both these conditions.

As implied in Newcomb's AtoBreX, a person is concerned about his relation to another and that person's relation to him, and also about their relations to objects of common concern. Thus, in interaction, individuals are faced with the necessity to adjust not only to each other, but also to each other's attitude towards the objects with reference to which they are interacting. A change in one of these "unit relationships" brings about processes of accommodation to restore what Heider calls a "balanced state." But our results indicate that the processes evoked by one kind of problem are different from those evoked by the other. Perceived attraction and opinion discrepancy have different dynamic effects. Perceiving each other to be alike may be interpreted as reducing barriers to communication. At the same time, this condition may provide a sense of "security," with the result that although communicative processes more freely occur, opinion change depends more upon similarity or difference of opinion than upon the degree of attraction itself. By the opposite token, a marked discrepancy in orientation toward an object creates what we might call a threat to the self. This apparently occurs whether members of a pair perceive themselves as mutually attractive or not. In either case, the essential issue has to do with attitudes toward the object in question, so that a difference in attitudes generates a defensive process, interfering with adjustment to the other's point of view. Similarity of opinion engenders, perhaps, less threat to the self, and thus permits a movement toward greater mutual agreement.

It may be, therefore, that a principle like Leary's anxiety reduction (7) can be invoked to tie together the Heider-Newcomb and the Festinger theories. That is, the answer may lie in a notion as simple as a tendency by the members of the pairs to avoid the greater anxiety and to adopt a course of action resulting in lesser anxiety. When there is high attraction, it becomes important to understand each other—hence an outflow of communicative acts. Opinion difference, in this sense, has nothing to do with the relation between the two persons, but simply defines their orientation toward X. In the contrasting situation, the greater anxiety stems from discrepancy in orientation. High mutual attraction has little or no bearing upon the resolution of this difficulty in comparison with low attraction if the two persons are generally similar in orientation. But if opinions are markedly

discrepant, there is apparently a greater threat to the self-concept under conditions of mutual attraction than under conditions of low attraction. In the latter case, each person "stands pat," so to speak; whereas, in the former, the two persons enhance their self-esteem by sharpening the difference in their opinions.

Much of this, of course, remains speculative. But it seems clear that opinion discrepancy and perceived attraction have different dynamic implications for mutual accommodation.

Whether a single principle can account for both sets of relationships remains a moot point. At present, we appear to have two different laws of social interaction. One is that communicative activity is greater under conditions of high mutual attraction than under conditions of low mutual attraction. The other is that two persons will change toward closer agreement when they hold generally similar opinions than when there are large discrepancies between them in opinion.

E. Summary

An experiment was conducted to test four hypotheses derived from theoretical analyses by Newcomb (8) and Festinger (3). These hypotheses are as follows:

I. The greater the discrepancy in the orientations of two persons toward an object with reference to which they are interacting, the more frequent will be their communicative acts.

II. The greater the attraction between two persons, the more numerous will be their communicative acts.

III. The greater the discrepancy in the orientations of two persons toward an object with reference to which they are interacting, the greater will be their resistance to changing opinion toward uniformity.

IV. The greater the attraction between two persons, the less will be their resistance to changing opinion toward uniformity.

Forty pairs of *S*s engaged in a discussion about their attitude toward the church. High and low mutual attraction were manipulated by alleged matching on a personality test. Similarity and difference of opinion about the church were manipulated by means of the Thurstone and Chave "Experimental Study of Attitude toward the Church" (10). The four combinations of these conditions produced four experimental groups, 10 pairs in each group.

Specific predictions about the magnitude of opinion change toward uniformity and amount of communication were derived for each of the four combinations of experimental conditions.

The results significantly supported Hypotheses II and III, but not Hypotheses I and IV. Interaction effects were present, but cannot be interpreted in terms of a general principle. Rather, it is concluded that two different sets of relationships are characteristic of this kind of social interaction. High attraction is associated with a high degree of communication, but opinion change toward uniformity is a function not of attraction but of discrepancy in orientation. Conversely, discrepancy in orientation is associated with resistance to opinion change toward uniformity (or, in different language, positive opinion change is associated with similarity of orientation), but amount of communication is a function not of orientation to an object but of perceived attraction.

References

1. Edwards, A. L. Edwards Personal Preference Schedule (Manual). New York: Psychological Corp., 1953-1954.
2. Festinger, L. A. Informal social communication. *Psychol. Rev.,* 1950, **57**, 271-282.
3. ———. A theory of social comparison processes. In A. P. Hare, E. F. Borgatta, & R. F. Bales (Eds.), *Small Groups: Studies in Social Interaction.* New York: Knopf, 1955. Pp. 163-187.
4. ———. A Theory of Cognitive Dissonance. Evanston, Ill.: Row, Peterson, 1957.
5. Festinger, L., & Thibaut, J. Interpersonal communications in small groups. *J. Abn. & Soc. Psychol.,* 1951, **46**, 92-99.
6. Heider, F. Attitudes and cognitive organization. *J. of Psychol.,* 1946, **21**, 107-112.
7. Leary, T. Interpersonal Diagnosis of Personality. New York: Ronald Press, 1957.
8. Newcomb, T. M. An approach to the study of communicative acts. In A. P. Hare, E. F. Borgatta, & R. F. Bales (Eds.), *Small Groups: Studies in Social Interaction.* New York: Knopf, 1955. Pp. 149-163.
9. ———. The prediction of interpersonal attraction. *Amer. Psychologist,* 1956, **11**, 575-586.
10. Thurstone, L. L., & Chave, E. J. The Measurement of Attitude. Chicago: Univ. Chicago Press, 1929.

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THE MEANING OF SOME "POPULAR" VARIABLES*[1]

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A. INTRODUCTION

A criticism sometimes made about social and clinical psychology is that variables appear to become fashionable or "popular" among members of the profession. Such concern often stems from particularly interesting or critical researches. The reaction of popularity, however, may be described otherwise as a seizing upon the particular information revealed through these researches as providing an "answer" to the science or a new approach illuminating important questions in the science. The reaction is particularistic rather than systematic, possibly reflecting a romantic notion of discovery and "breakthrough" into knowledge. In any event, it seems reasonable to suggest that some variables (e.g., authoritarianism, rigidity, anxiety, etc.) do have these characteristics or popularity in the waves of interest that are reflected in the journals.

The meaning attributed to these variables may come from many sources. Often the meaning is a verbal definition supported by dramatic examples. Such definitions, however, must at some point be translated into operations for measurement. With regard to attributes associated with individuals (i.e., personality traits), the criterion problem is very often submerged in the multitude of possible measures that are advanced. It would seem that the ultimate criterion should be the ability to classify individuals in a consistent manner that is in accord with the expert definition of the variable. This means that if the judges find it satisfactory, a paper-and-pencil test could be provided which would measure the characteristic of "authoritarian." This would leave open the question, however, of whether authoritarianism is a behavior among individuals or a disposition to answer a paper-and-pencil questionnaire in a given way. If the assertion is that authoritarianism is a tendency to behave in a given way in interpersonal relations rather than

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in a given way to a paper-and-pencil questionnaire, then the criterion problem is not satisfied even when the judges agree that certain paper-and-pencil responses should be classified as authoritarian.

The examination of the meaning of variables may be pursued through several alternative avenues. Ultimately, the meaning attributed to any variable will accrue from its correlates. These may be classified according to concurrent or content validity, construct validity, or predictive validity, but at minimum the meaning in concurrent content or correlates is of importance, because this is the delineation of meaning among variables of the same type. Such analyses are implicit in the factor-analytic study of personality and preference schedules and the location of particular popular variables within these.

The meaning of the popular variable at the level of identifying the characteristics of individuals in their interpersonal performance or from impressions they make on others is less common. In fact, a reasonable case can be made for the assertion that many of the popular paper-and-pencil variables are not examined (validated predictively) with such criterion variables. The status of the study of personality is frequently described as being very poor from the point of view of being able to predict behavioral characteristics in interaction or the direct assessment of behavior. If personality characteristics are defined as tendencies to behave in given ways in interpersonal relations, systematic analysis of the criteria rather than the indirect (paper-and-pencil) variables should be focal. Such studies of criteria could serve as reference points in the analysis of meaning of paper-and-pencil responses, including the popular variables. Further, it should be possible to study the meaning of the popular variables directly within the structure of the direct observation of social interaction or peer and observer assessments. Such an avenue is undertaken in the report presented here.

B. The Structure of Peer Assessments and Popular Variables

In parallel to the approach that occurs in the factor-analytic paper-and-pencil studies, some progress has been made in the factor-analytic study of direct observation of individuals in social interaction and of peer and observer assessments reflective of interpersonal behavior. A considerable amount of consensus appears to be arising with regard to the structure of peer rankings for some variables. The analysis presented here is dependent on such accumulated knowledge of the structure of the peer rankings. The accumulated experience appears to indicate that the two-factor system (4, 6, 7, 8) was insufficient (3), and subsequent analyses suggest that even the three-factor system of Carter can be expanded consistently to a larger number of factors

(1, 2, 5, 9, 10). At this point a substantial argument can be presented for the consistent occurrence of a five-factor space in which the nominal identification of factors is as follows: I. Assertiveness; II. Sociability (more accurately Likeability); III. Emotionality (Upsetability; IV. Intelligence; and V. Task Interest or Responsibility.

C. Method

Our data came from a study of peer rankings among college sorority members in an eastern University. The peer rankings were carried out within five-person groups in each of six large sororities. The five-person groups were composed for peer rankings under two specifications. First, the sorority president was asked to classify the members of her organization into five-person groups that best represented persons who usually "pal around together" or know each other very well. Second, the sorority president was asked to include at least one sophomore, one junior, and one senior in each of the five-person groups and combine the groups in such a way that no two persons would overlap from the prior five-person groups. The instruction was randomization and/or selection by lack of contact and knowledge about the other. A total of 335 useable forms resulted on the first specification and 340 on the second. The underlying sample on which the two panels of data are collected, thus, is the same, but the rankings are independent. The form utilized in this testing involved 34 items indicated in Table 1. The items

TABLE 1
Peer-Ranking Items*

1. Is very active	18. Accepts responsibilities
2. Is friendly	19. Is assertive
3. Is intelligent	20. Supports others
4. Is very tense	21. Is alert
5. Is antagonistic	22. Is emotional
6. Interested in getting things done	23. Is thoughtful
7. Has initiative	24. Is mature
8. Is pleasant	25. Is rigid
9. Is rational and logical	26. Shows leadership
10. Gets upset easily	27. Is responsive to humor
11. Disagrees often	28. Is conservative
12. Pays attention to the task	29. Is neurotic
13. Does most of the talking	30. Is orderly
14. Is likeable	31. Is well adjusted
15. Is clear minded	32. Is short tempered
16. Is nervous	33. Is anxious
17. Is authoritarian	34. Is conscientious

* The instructions used were as follows:
"*Instructions*: Rank the members of your group on each of the traits and behavioral descriptions given below. Use an 0 for the person who is lowest or has the least amount of the trait. Use a 1 for the person who is the next lowest. And so on.
"*Make sure you include yourself in the ranking.*"

included in this testing were designed particularly to saturate the content of the five factorial areas indicated above as well as to include seven concepts that appear to fit the definition of "popular."

It should be noted that there are a number of concepts that could be considered popular that are deliberately not included in this panel. Some were excluded because of the difficulty of providing language that would be interpretable even by college students. A concept like "Empathy," for example, is not sufficiently well known in the English language to be utilized in such peer rankings. To translate such a term to one like "Understands others" leads to confusion because of the many meanings that can be applied to "Understands." To use a concept that is related, such as "Has insight into the feelings of others," seemed to provide a definition that was too closely related to sympathy—from which empathy is usually distinguished. The concepts finally included in this analysis do not bypass all the difficulties, and some problems are discussed below. The concepts appear in some ways to be understood more as labels or epitaphs than according to the technical definitions or the more elaborate sophisticated definitions. This is certainly true of Authoritarian, Neurotic, Anxious, Rigid, and Conservative.

D. Results

The relationships among the five items selected as most representative of the five factors are indicated at the top of Table 2. Two figures are presented for each cell of the matrix. The upper figure refers to the data derived from the specifications of "intimate groups" and the lower figure refers to the data derived from the specification designed to stratify and combine persons who did not know each other so intimately. The intercorrelations tend to be small, with the largest values occurring for $r_{3,12} = .52$ and .56 respectively. This is a known dependence among measures of these two factors, Intelligence and Task Interest. The next largest relationships are $r_{14,10} = -.32$ and $-.28$, and again are known negative relationships between items in these two factors, Sociability and Emotionality. Additional correlation between Factor I and Factors IV and V is often observed but does not occur in this matrix. In order to indicate the approximate amount of variance involved for variables, the largest single correlation in the matrix for each is listed in Table 2. These may be contrasted to the very small relationships within the matrix of the five "reference" items.

We may now consider the seven items of intrinsic interest because of their popularity in relation to the five reference items. Again, as an indication of the amount of variance involved for the item, the highest correlation in the

TABLE 2

INTERCORRELATION AMONG CRITERION VARIABLES AND BETWEEN CRITERION AND INTRINSIC VARIABLES

		Item of highest correlation	I 13	II 14	III 10	IV 3	V 12
I.	13. Does most of the talking	$r_{13,19} = .58$		.10	.11	.15	.00
		$r_{13,19} = .64$		.17	.23	.06	.11
II.	14. Is likeable	$r_{14,8} = .79$	.10		—.32	—.04	.16
		$r_{14,8} = .81$	.17		—.28	.02	.21
III.	10. Gets upset easily	$r_{10,22} = .71$	.11	—.32		—.02	—.04
		$r_{10,22} = .73$	.23	—.28		—.09	—.15
IV.	3. Is intelligent	$r_{3,15} = .59$	.15	—.04	—.02		.52
		$r_{3,15} = .67$	.06	.02	—.09		.56
V.	12. Pays attention to the task	$r_{12,6} = .80$ ($r_{12,18} = .74$)	.00	.16	—.04	.52	
		$r_{12,18} = .85$ ($r_{12,6} = .83$)	.11	.21	—.15	.56	
	17. Is authoritarian	$r_{17,19} = .80$	.45	—.20	.19	.37	.30
		$r_{17,19} = .82$	.54	—.20	.21	.41	.37
	26. Shows leadership	$r_{26,7} = .74$	.33	.25	—.09	.44	.58
		$r_{26,7} = .83$	.46	.27	—.02	.52	.70
	29. Is neurotic	$r_{29,31} = -.67$	.05	—.45	.60	—.02	—.17
		$r_{29,31} = -.67$	.23	—.48	.61	—.11	—.30
	31. Is well adjusted	$r_{31,29} = -.67$	.06	.53	—.52	.28	.38
		$r_{31,29} = -.67$	.05	.53	—.55	.31	.49
	33. Is anxious	$r_{33,16} = .70$	.26	—.23	.68	.01	—.02
		$r_{33,16} = .69$	.22	—.35	.67	—.01	—.03
	25. Is rigid	$r_{25,17} = .55$ ($r_{25,11} = .51$)	—.03	—.44	.12	.29	.26
		$r_{25,11} = .57$ ($r_{25,17} = .53$)	.00	—.51	.21	.35	.18
	28. Is conservative	$r_{28,30} = .48$ ($r_{28,27} = -.44$)	—.44	.02	—.07	.07	.28
		$r_{28,27} = .63$ ($r_{28,30} = .57$)	—.44	—.13	—.14	.21	.35

matrix is given in Table 2. Data are presented with the correlations based on the specification of "Intimacy" given as the upper value. Relationships will not be mentioned unless one of the observations has absolute $r = .20$. It should be noted that if the null hypothesis were being tested with these data at the .05 level (symmetric), significance would be achieved with $|r| \geqslant .11$.

Item 17, Is authoritarian, is related to all five reference items. The higher correlations appear to be in the area of content of Factors I, IV, and V, with the highest figures to the Factor I item, 13, Does most of the talking. These findings replicate prior experience, and the item "Is authoritarian" has actually been used in building scores of Assertiveness. It should be noted that $r_{17,19}$ indicated in the column of highest correlations involve the item "Is assertive," and the values for this relationship are large. Of some note are the minor negative correlations to item 14, Is likeable, and positive correlations to item 10, Gets upset easily.

Item 26, Shows leadership, appears to be related to the criterion items in Factors I, II, IV, and V. The largest correlations are related to item 12, Pays attention to the task. Of some interest is the positive correlation to item 14, Is likeable, and the absence of correlation to item 10, Gets upset easily. This may be an indication that the notion of leadership as it occurs here refers to "all-around leader" or the person who has all the desirable characteristics.

Item 29, Is neurotic, has loadings primarily in the criterion items associated with Factors II and III. The largest loadings are with item 10, Gets upset easily, and the next largest and still substantial correlations are negative ones with item 14, Is likeable.

Item 31, Is well adjusted, appears to be equally well related to the items representative of Factors II and III, with a positive relationship to Likeability and a negative relationship to Emotionality. Interestingly, positive correlations occur also to item 3 and item 12, with item 12, Pays attention to the task, having somewhat higher correlations.

Corresponding to the concept of Anxiety, a number of possible items were originally considered. It was felt that an item like "Shows anxiety" or "Has anxiety" might be difficult to understand. The item used here, 33, Is anxious, potentially had some difficulty because alternate meanings may be applied to it. In particular, "anxious" may mean that a person is anticipating or looking forward to an event, or it may mean that he is "anxiety ridden." The meaning that resulted, in any event, is indicated in Table 2, with very substantial correlations occurring with item 10, Gets upset easily. A small

positive correlation occurs with item 13, Does most of the talking, and a small negative correlation occurs with item 14, Is likeable.

Item 25, Is rigid, has a large negative correlation to item 14, Is likeable, representative of Factor II. Small positive relationships also occur with item 3, Is intelligent, and item 12, Pays attention to the task, and there is a very small positive relationship indicated to item 10, Gets upset easily.

The final item considered under the notion of popular variables is item 28, Is conservative. The largest relationship for this item to the criterion items is a negative one with item 13, Does most of the talking, representative of Factor I, Assertiveness. Small positive correlations occur for items 3, Is intelligent, and 12, Pays attention to the task, representing Factors IV and V, Intelligence and Task Interest.

E. Discussion

Our analysis proceeds from the assumption that the characteristics of individuals as responded to by others are capable of being ordered into a relatively small set. Evidence for this occurs in other research reports, but the correlation matrix of five items representative of a five-factor structure are used as illustrative evidence here. Such concepts should be important social psychological variables because they represent crucial aspects in the study of social interaction and interpersonal relations. The concepts represent a parsimonious set of categories to classify how persons are perceived (or reacted to) by others who know them intimately or well enough to assess them. The fact that peers are utilized rather than expert observers might be raised as an objection to the classification system, but in fact evidence appears to be that observers utilize the same categories. Possibly, external (expert) observers have less access and basis for judgment of others because they are not in the full culture of the interaction. The suggestion that biased assessments occur by virtue of selective factors in who ranks whom is not relevant to the formation of the categories, which in any event apparently is relatively independent of the two specifications for accumulating rankings used in these data. In short, if it is granted that the characteristics of a person that are focal for study are those that others respond to in social interaction or interpersonal relations more generally, the case for the location of the parsimonious set of variables based on peer rankings is very strong.

Concepts in social psychology that appear to achieve popularity among members of the profession may be defined through operations of various types, including paper-and-pencil measures or direct assessment by peers. If there is an underlying assumption that the attribute of the individual is a

"tendency to behave in a given way (towards others)," a criterion of direct assessment of behavior is required. One manner through which such a criterion is satisfied is the report of others of how they assess the individual. The paper-and-pencil responses in this context can be seen only as secondary or indirect methods of approaching the attributes of the individual. For these reasons, examining the meaning of the popular variables relative to a set of parsimonious concepts for the description of the attributes of the individual is particularly appropriate. Because, in the parsimonious set, variables are relatively independent of each other, the amount of variance that is accounted for each of the popular variables can be estimated in the profile of correlations to the five reference variables. The meaning of the popular variable can be read reasonably by the direction and magnitude of correlation with these reference variables.

The logic of the above analysis does not vitiate other approaches to the study of behavior. For example, leadership may be defined not as an attribute of an individual in the usual trait sense, but in the ability of the individual to influence the (success of the) group task. For such a case, obviously, objective measures of the variable that are not based on peer or observer assessments may be possible. Similarly, it is possible that other types of definitions based on consequences of the actions of the individual may be devised appropriately for other concepts. However, the framework provided by the systematic study of behavioral characteristics places in question the procedure of exploring the meaning of variables in a haphazard manner, or of formulating paper-and-pencil tests on an *ad hoc* or intuitive basis with subsequent exploration of the relationship of the paper-and-pencil test as though it were an attribute of the individual as a "tendency to behave in a given way (towards others)."

F. Summary

The structure of variables based on how persons assess each other is described. Within this structure, consideration is given to some popular concepts that occur in the research literature. Attention is given to the fact that if an attribute of a person is described as a "tendency to behave in a given way," some direct basis of assessment is implied. Paper-and-pencil tests measure the tendency to respond to the test in a given way; it is an unwarranted inferential jump to assume such tests are measures of tendencies to behave in given ways in interpersonal relations. Exploration of paper-and-pencil tests with direct measures of interpersonal behavior should occur with knowledge of the systematic structure of the latter.

References

1. Borgatta, E. F. Rankings and self-assessments: Some behavioral characteristics replication studies. *J. Soc. Psychol.,* 1960, **52**, 279-307.
2. Borgatta, E. F., *et al.* The spectrum of individual interaction characteristics. *Psychol. Rep.* (Monog. Suppl. 4), 1958, **4**, 279-319.
3. Carter, L. F. Recording and evaluating performance of individuals as members of small groups. *Person. Psychol.,* 1954, **7**, 477-484.
4. Coffey, H. S. Socio and psyche group process: Integrative concepts. *J. Soc. Iss.,* 1952, **8**, 65-74.
5. Dunnette, M. D. A self-description adjective checklist as an indicator of behavioral modalities. Mimeographed copy of speech given at APA Convention, 1960.
6. Jennings, H. H. Leadership and Isolation. New York: Longmans, 1943.
7. ———. Sociometric differentiation of the psyche group and sociogroup. *Sociometry,* 1947, **10**, 71-79.
8. Leary, T. Interpersonal Dimensions of Personality. New York: Ronald, 1957.
9. Tupes, E. C. Stability of personality trait rating factors obtained under diverse conditions. W A D C-T N-58-61, Personnel Lab., Wright Air Force Development Center, A R D C, Lackland Air Force Base, Texas, May, 1958.
10. Tupes, E. C., & Christal, R. C. Personality traits related to effectiveness of junior and senior Air Force Officers. W A D C-T N-59-198, Personnel Lab., Wright Air Force Development Center, A R D C, Lackland Air Force Base, Texas, November, 1959.

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FACTORS INFLUENCING THE SEVERITY OF MORAL JUDGMENTS*

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A. PURPOSE

Moral judgments of others' behavior are influenced by the relationships among the specific situation being evaluated, the characteristics of the person judging the situation, and the other person involved in the situation.

Past research suggests that both degree of liking and severity of judgment are influenced by the extent of the judge's similarity to the character whose behavior is being evaluated. Kinder (5) presented evidence that females ascribe more superior qualities to other women than they do to men. Kitay (6) employed an attitude test dealing with the role and value of women in society. He found that more males than females accepted negative statements about women, and more females than males accepted positive statements about women. Fensterheim and Tresselt (4) found their *S*s liked best photographs of people whom they perceived as having values most like their own. Maccoby and Wilson's *S*s (8) "identified" more closely with movie characters who were like the *S*s in sex and who belonged to the social class to which the *S*s aspired. The index of identification was a composite of *S*s' responses to three items with low positive intercorrelations: (*a*) whether *S* liked the character, (*b*) whether *S* would like to be the character, and (*c*) whether *S* felt he resembled the character. The social-class finding suggests that the important class similarity was between the movie character and *S*'s ego-ideal. Nevertheless, similarity in sex emerged as a clearly important correlate of the items that made up the "identification" index. Thus, the evidence suggests that *S*s favor others who resemble them, and, in particular, they favor others of the same sex.

Other investigators of sex influences on moral judgment have explored the possibility that women are harsher judges of other people's behavior than are men. Although several studies (7, 11, 12) have indicated marked consistency between males and females in the severity of their judgments of various types of behavior, two experiments have found that females were harsher in their

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judgments than males (2, 3). It should be noted that in contrast to the previous study, which used behavior in which either both sexes or neither sex was implied, *S*s in the DiVesta and Bossart study (3) evaluated behavior of a male character, and the Crissman study (2) used items in which a male character was frequently implied. Therefore, their results could have occurred either because females judge more harshly than males, or because *S*s are more severe with opposite-sex than with same-sex characters.

Judgments of a situation will also depend upon an individual's frame of reference—the interiorization of social norms, values, and beliefs based upon past experiences (10). These norms and values influence and frequently distort the individual's perceptions and judgments even in the face of objectively present stimuli (1, 9, 10, 13). If an *S* is to evaluate the behavior of a character in a story, his judgment will depend upon the way in which he interprets the situation. *S*s who have different dominant value systems should not be expected to perceive and judge a situation in the same way. Consequently, it seems important to take account of major value differences among *S*s in studies of moral judgment.

The present experiment is an extension of the study by DiVesta and Bossart (3) of sex differences in attitudes toward another's behavior in an ethical situation and of the extent to which attitudes toward another person's questionable behavior could be modified by attaching to the situation a "social," "economic," or "ethical" label. Their results indicated that females responded more negatively than did males to the questionable behavior, and that more critical attitudes were produced with the "ethical" label than with either the "social" or "economic" label. The generality of the sex differences cannot be considered established, however, unless both the sex of the *S*s and the sex of the other are varied; and the finding with regard to labeling seemed to call for an attempt at replication.

The four hypotheses to be tested are:

Hypothesis 1. Females are not consistently more severe in their criticism of behavior in an ethical situation than are males.

Hypothesis 2. Moral judgments are less severe when a high degree of perceived similarity between the judge and the story character is present. Males are more lenient in judging a male than in judging a female, and females are more lenient in judging a female than in judging a male.

Hypothesis 3. An individual's most dominant value system influences the severity of his moral judgments.

Hypothesis 4. A situation labeled "ethical" produces a greater negative attitude than the same situation labeled "economic."

B. Method

1. *Subjects*

The initial group of *S*s consisted of 77 male and 79 female psychology students from the University of Wisconsin, a total of 156 *S*s. After the selection procedures described below, 72 *S*s, 36 males and 36 females, remained in the final analysis.

2. *Procedure*

The experiment was administered to groups of *S*s in a single session. In order to preserve anonymity, *S*s were not required to identify themselves by name but were assigned numbers which were recorded on all their experimental protocols. Odd numbers were assigned to males and even numbers to females.

The experimental session was composed of two procedures: first, the answering and self-scoring of the Allport-Vernon-Lindzey Study of Values, and, second, the reading and rating of a description of a "housing" incident.

Experimenters checked the scoring of the Study of Values tests as they were returned and assigned each *S* to a category based on his highest score in the six value areas. The test booklets were censored with black crayon so that *S*s were unable to interpret their own scores during the self-scoring process.

The second part of the session involved the presentation of one of four variations of a housing situation to each subject. These four forms differed in two ways: (*a*) in the sex of the main character and (*b*) in the instruction and story title which appealed either to economic or to ethical values. The situation in the story is the same as that used by DiVesta and Bossart except that in the earlier study the main character was always male. The instructions for one half of the stories stated that ethical considerations were involved and the story was labeled "An Economic Situation." In half of the stories with each of the two labels the main character was male, and in the other half female. The story was as follows:

> A middle-aged man and his teen-age son live in a public housing development. Their house is adequate for their needs and is superior to anything that they could obtain on the open market at the same price. This development was built by the government to provide housing for underprivileged families and, in order to assure that this low-cost housing is properly used, the regulations require that the resident families have an income under the figure of $2900.
>
> The man mentioned above has an income just under this amount and his entire income is used in running his household. He has, however, a strong desire to send his son to college and finds that he can obtain a

job on weekends with a relative which would provide enough money for his son's education.

This additional income, however, would require his moving from the housing development and the increased rent would absorb most of his increased income. To provide for his son's education he takes the job, but makes arrangements for this additional income not to be reported. Thus he is able to stay in the low-cost housing and also secure the desired education for his son.

The version using a female character simply substituted "woman" for "man," "she" for "he," etc.

*S*s were asked to evaluate the action of the story character. The instructions were, "Please rank the following statements according to how close they come to representing your opinion about the ethical (or economic) situation." The six statements to be ranked ranged from "I am completely opposed to the father's (mother's) action" to "I am completely in favor of the father's (mother's) action" and were assigned scale values from one to six. The measure of the *S*'s attitude was the scale value of the alternative selected as his first choice.

Value areas which had a representation of at least 12 *S*s, evenly divided among the four variations of the story, were retained in the final analysis. The religious, economic, and political value groups were the only groups fulfilling this requirement. Surplus *S*s within a single cell were eliminated randomly. The selection procedure results in the utilization of value groups in which males and females differ least.

The data were analyzed in a four-classification factorial analysis of variance with two organismic variables (sex and value group of *S*) and two experimental variables (sex of story character and kind of story label).

C. Results

The results of this study are summarized in the analysis of variance presented in Table 1 and the means listed in Table 2.

The four hypotheses fared as follows:

Hypothesis 1. Females were not significantly more severe than males in overall judgments of the story characters' behavior, as predicted.

Hypothesis 2. The interaction of sex of *S* and sex of story character was found to be significant beyond the .005 level of significance. Male *S*s were more lenient in judging the action of a male character than in judging the action of a female character. Correspondingly, female *S*s were more lenient in judging the action of a female than in judging the action of a male.

TABLE 1
SUMMARY OF ANALYSIS OF VARIANCE

Source	*df*	Mean square	*F*	*p*
Total	71	2.55	—	—
Sex of *S* (Sex)	1	5.56	2.30	—
Value orientation (VO)	2	8.23	3.40	.05[a]
Label (L)	1	2.00	0.83	—
Sex of story character (SC)	1	2.72	1.12	—
Sex × VO	2	0.22	0.09	—
Sex × L	1	0.05	0.02	—
Sex × SC	1	22.22	9.18	.005
VO × L	2	3.50	1.45	—
VO × SC	2	1.06	0.44	—
L × SC	1	0.89	0.37	—
Sex × VO × L	2	0.39	0.16	—
Sex × VO × SC	2	0.06	0.02	—
Sex × L × SC	1	1.39	0.57	—
VO × L × SC	2	0.22	0.09	—
Sex × VO × L × SC	2	1.56	0.64	—
Within cells	48	2.42		

[a] Only the political and religious means were significantly different beyond the .05 level by Duncan's Multiple Range Test.

TABLE 2
MEAN JUDGMENTS OF *S*s CLASSIFIED BY SEX, VALUE ORIENTATION, AND SEX OF STORY CHARACTER

Sex of character	Value orientation of *S*			
	Economic	Political	Religious	All *S*s
		Male Ss		
Male	2.33	1.67	2.50	2.17
Female	3.83	2.83	4.33	3.67
		Female Ss		
Male	3.83	3.50	4.17	3.83
Female	3.00	2.33	4.00	3.11
		All Ss		
	3.25	2.58	3.75	3.19

Note: A high score indicates a critical judgment; a low score, a favorable judgment.

Hypothesis 3. The value group of the *S* was related to his attitude concerning the action of the story character. *S*s with high religious values judged the action of the story character most critically. *S*s who scored high on political values ranked the action of the story character most favorably. The differences between religious and economic and between economic and political value groups were not significant.

Hypothesis 4. The label of the situation was not found to be a significant variable in this study as it had previously been in the study by DiVesta and Bossart. Table 3 compares the data from the present experiment concerning the label of the situation with those of the DiVesta and Bossart study. Only the data for male story characters and ethical and economic labels are included.

TABLE 3
COMPARISON OF DIVESTA AND BOSSART DATA WITH DATA OF PRESENT STUDY

Label	DiVesta and Bossart *M*	*SD*	*N*	Present study *M*	*SD*	*N*
			Male Ss			
Ethical	3.31	1.71	134	2.33	1.00	9
Economic	3.01	1.59	134	2.00	.87	9
			Female Ss			
Ethical	3.89	1.48	134	3.78	1.56	9
Economic	3.48	1.62	134	3.89	1.45	9

Note: A high score indicates a critical judgment; a low score, a favorable judgment.

The results of the present experiment do not support the hypothesis that females are more negative in their attitudes toward an ethical situation than are males, but do support instead the hypothesized interaction between sex of *S* and sex of story character. DiVesta and Bossart's finding of a main effect of sex of *S* apparently may be accounted for by the fact that their story character was always male. With the introduction of a female story character, male *S*s tended to be more critical of the female than of the male, and females tended to be more critical of the male than of the female. This finding is attributed to the greater similarity between the *S* and the same-sex story character.

The *S*s' values were found to be related significantly to their attitude, but labeling did not have a significant effect. *S*s with high religious values were most severe in their attitudes, while *S*s with high political values were least severe, regardless of the set induced experimentally by labeling. It may be that the predisposition of the *S* to perceive a situation within the frame of reference of his value system was strong enough to nullify the effects of labeling.

The failure of the present study to replicate the DiVesta and Bossart findings on labeling may be due to differences in the selection of *S*s in the two studies, because the present study eliminated *S*s scoring highest on three of the six Allport-Vernon-Lindzey values. However, the labeling findings were tenuous even in the DiVesta and Bossart (3) data for, although the sample was 11 times as great as that used in the present study, the labeling effect

barely achieved significance at the .05 level and had been found nonsignificant in one of their previous pilot studies. Thus, the effect of labeling in the manner of these studies is at best of minor importance in determining the severity of moral judgments.

D. Summary

The purpose of this study was to examine the influence of the sex of a story character, the sex and value orientation of the *S*, and the influence of an experimentally induced set on the severity of *S*'s moral judgments. An *S*'s value orientation was identified by the value in which he scored highest on the Allport-Vernon-Lindzey Study of Values. *S*s were asked to read a short story and were asked to indicate the extent of their approval of the main character's behavior. Each *S* received a description of the same incident but the title of the story and the sex of the main character were varied.

It was found that the sex of the *S* did not in itself influence the severity of his moral judgment. However, the interaction of the sex of the *S* with the sex of the story character was significant. *S*s were less severe in their judgment of a like-sex story character than in their judgments of a cross-sex character.

*S*s' values were found to affect evaluations of the story situation. *S*s who had high religious values were harsher in their judgments than were *S*s who had high political values.

The title (label) applied to the situation did not affect the severity of *S*s' judgments.

References

1. Bartlett, F. C. Remembering: A study in Experimental and Social Psychology. Cambridge, England: Cambridge Univ. Press, 1932.
2. Crissman, P. Temporal change and sexual difference in moral judgments. *J. Soc. Psychol.*, 1942, **16**, 29-38.
3. DiVesta, F. J., & Bossart, P. The effects of sets induced by labeling on the modification of attitudes. *J. Personal.*, 1958, **26**, 379-387.
4. Fensterheim, H., & Tresselt, M. E. The influence of value systems on the perception of people. *J. Abn. & Soc. Psychol.*, 1953, **48**, 93-98.
5. Kinder, J. S. Through our own looking glass. *School & Soc.*, 1925, **22**, 533-536.
6. Kitay, P. M. A comparison of the sexes in their attitudes and beliefs about women: A study of prestige groups. *Sociometry*, 1940, **3**, 399-407.
7. Lo, C. F. Moral judgments of Chinese students. *J. Abn. & Soc. Psychol.*, 1942, **37**, 264-269.
8. Maccoby, E. E., & Wilson, W. C. Identification and observational learning from films. *J. Abn. & Soc. Psychol.*, 1957, **55**, 76-87.
9. Postman, L., Bruner, J. S., & McGuinnies, E. Personal values as selective factors in perception. *J. Abn. & Soc. Psychol.*, 1948, **43**, 142-154.
10. Sherif, M. The Psychology of Social Norms. New York: Harper, 1936.

11. SHERRIFFS, A. C., & JARRETT, R. F. Sex differences in attitudes about sex differences. *J. of Psychol.*, 1953, **35**, 161-168.

12. SKAGGS, E. B. Sex differences in moral attitudes. *J. Soc. Psychol.*, 1940, **11**, 3-10.

13. STAGNER, R. Psychological aspects of industrial conflict: I. Perception. *Person. Psychol.*, 1948, **1**, 131-144.

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INTEGRATION ATTITUDES OF COLLEGE STUDENTS AT THE UNIVERSITY OF ALABAMA*

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A. INTRODUCTION

Since the United States Supreme Court ruled in May of 1954 that it is unconstitutional for any public institution of learning to discriminate against anyone because of race or creed, most Southern states have made token attempts to integrate. Until recently, three states had been successful in avoiding compliance with the Supreme Court ruling—Alabama, Mississippi, and South Carolina.

Of the three noncompliant states, Alabama was unique in that in 1956 the University of Alabama admitted a Negro to the University but shortly thereafter expelled the student for violation of certain University regulations. Prior to the expelling of the student, however, the reaction of both students and the general public was rather severe and riotous. Since the student was expelled, no apparent serious attempt has been made to reintegrate the University, and the University remains legally integrated, actually segregated.

The basic questions which stimulated the authors were not concerned with whether the University will eventually integrate—it is public knowledge that the University of Alabama is under court order to admit qualified Negroes—but rather with whether the students are ready to accept integration, even token integration. Would the riotous behavior associated with the Lucy incident be repeated? Are the students ready to accept their responsibilities as citizens? These and similar questions motivated the authors to undertake a survey of student attitudes on the race issue and school integration.

Alabama is one of the states in the Deep South still attempting to hold the line on racial integration. From one standpoint, this somewhat makes *sense* in the light of three facts: (*a*) residents in the Deep South, according to the Fortune Survey of 1939 (2, pp. 687-688), are reported to be more vitally concerned about the Negro problem than are residents in other sections of the country; (*b*) there is a larger proportion of Negroes in the Deep South

* Received in the Editorial Office on October 31, 1962. Copyright, 1964, by The Journal Press.

than in other geographical areas; and (*c*) Holtzman (3) reported that the greater the proportion of Negroes in a given area, the greater the level of intolerance on the part of the white population.

For our purposes the Holtzman study is of particular interest even though it was carried out a decade ago. The Holtzman study was undertaken about the time the University of Texas was ordered to accept qualified Negroes. And although we do not have comparable data for Alabama students for the same period, it would seem instructive to compare the 1952 Texas students with the 162 Alabama students, especially since the two Universities are in somewhat similar positions *vis-à-vis* the race issue.

Because there exist many counterpressures, it is difficult to formulate a logical answer to the question: Should one expect Alabamians to be more tolerant today than were the Texans in 1952? On the one hand we have witnessed, through the Lucy incident, the unsuccessful attempt to integrate the University of Alabama; we have seen the ensuing six years elapse with no qualified Negro applicants. During 1961 we have seen sit-in and kneel-in demonstrations, mob reaction to the freedom riders in Birmingham and Montgomery, and finally the formation of groups intent upon sponsoring reverse freedom-riders. On the other hand, we have observed successful integration attempts in Texas, Kentucky, Tennessee, and Georgia. At this writing, it would appear as if Mississippi has joined those states permitting token integration, but only after bloody rioting and a confrontation with approximately 23,000 federal troops.

The classic studies conducted by the United States Army (4) during the Second World War, indicating that the closer men were to platoons which had integrated, the fewer were the unfavorable responses to this practice, would suggest that because Alabamians are closer to integrated facilities today than they were in 1952, they might be expected to be more favorably inclined toward integration, or at least to hold some favorable attitudes toward integration.

B. Method

1. *Instruments*

We hypothesized that Alabama students will manifest roughly the same degree of intolerance today as did the Texas students of 1952. To test this hypothesis about Alabama students, three devices already constructed and utilized in previous research were selected. These were (*a*) the Image of the Negro scale developed by Tumin *et al.* (5), which was slightly modified for incorporation into the present study; (*b*) the Tolerance of Non-Segregation

scale developed by Holtzman (3); and (*c*) the Integration Attitude (IA) scale constructed by Greenberg (1). The latter two scales were used in their original form.

The Image of the Negro scale contains four items. The respondents were asked: "So far as intelligence is concerned, would you say that compared to whites, Negroes are by nature: 1) superior to whites; 2) the same as whites; 3) inferior to whites; and 4) don't know—can't say." The respondents were asked the same questions in terms of responsibility, morality and ambition. The items were scored as follows: zero, for inferior to whites; one, for don't know—can't say; two, for same as whites; and three, for superior to whites. The theoretical range of scores on the Image scale was from zero to 12.

The Tolerance of Non-Segregation scale contains 12 items which were scored so that the range of scores was from zero to 10. "A score of ten reflects attitudes consistently in favor of breaking down segregation; a score of zero reflects attitudes consistently in favor of maintaining segregation where possible" (3, p. 561).

The Integration Attitude (IA) scale consists of 29 statements, such as "Restaurants, movies, etc., should serve anyone, regardless of race." Six response categories were used: strongly agree, agree, mildly agree, mildly disagree, disagree, and strongly disagree. As in the original Greenberg study, these responses were converted into scores ranging from zero to seven. Strongly agree is scored seven, no response is scored four, and so on, until a strongly disagree response is scored one. Thus, the higher the score on the IA scale, the more positive the overall attitudes toward integration. These scores can range from a low of 29, a strongly disagree response to each item, to a high of 203, a strongly agree response to each item (1, pp. 104-105). Respondents were classified, by the authors, as favoring integration if they scored 114 or above.

2. *Subjects*

The respondents consisted of students in four Introductory Sociology classes at the University of Alabama during the second semester, 1962. No attempt was made to conduct a campus-wide survey, nor were all Introductory Sociology students questioned. The authors used only their own Introductory classes. The questionnaires were administered after the introductory courses had been under way for several weeks (six-seven), but before there had been any formal study and discussion of race relationships. In this way, there were no "expected" or "right" responses in terms of specific subject matter areas; however, the authors feel that because the respondents had been exposed to Sociology, any bias in the sample could operate in favor of presenting a more

"liberal" image than might otherwise be true for the total campus or for students who had not yet enrolled in social-science courses.

One hundred and seventy-eight students cooperated in the study. Of this number, 72 were males and 106 were females; 77 were freshmen, 50 were sophomores, 34 were juniors, and eight were seniors. In terms of hometown, 154 students lived in Alabama, while 24 lived outside the state.

C. Results

1. *Image of the Negro*

Thirty-four per cent of all students (40 per cent of the men and 30 per cent of the women) in the sample regarded the Negro as inferior to the white in respect to intelligence, responsibility, morality, and ambition. Only 12 per cent of the men and 17 per cent of the women could be regarded as having a slightly equalitarian view of the Negro. The other students manifested a negative image of the Negro.

The negative image of the Negro seems to be stable in that roughly the same proportions of freshmen, sophomores, and the combined junior-senior group scored extremely low on this scale. The same is true when scale scores are analyzed by grade point average, membership in sorority and fraternity groups, social class (subjectively measured), religious preference, and size of city.

2. *Tolerance of Non-Segregation*

Defining as Intolerant those persons who scored from zero through four on the scale, we find 61 per cent of the sample in the Intolerant Group. This compares with 57 per cent of the male students at the University of Texas in April, 1952 (3, p. 565). Actually, however, if the women students at Alabama are deleted, the percentage of Alabama men in the Intolerant Group is 64.

The Texas study (3, p. 565) suggests a positive relationship between year in college and tolerance of non-segregation. That is, the more advanced the student in college, the more likely he was to favor abolishing segregation. This relationship between year in school and tolerance of non-segregation is not as apparent in the Alabama sample; if, however, the juniors and seniors are grouped together, there is a slight tendency for intolerance to decrease as there is an increase in the amount of formal education. (See Table 1.)

The proportion in the Intolerant Group is high for most categories. There were no statistically significant relationships between tolerance of non-segregation on the one hand, and religion, grade point average, social-class position, and size of city on the other. There was, however, one significant finding in

TABLE 1
COMPARISON OF PER CENT IN THE INTOLERANT GROUP BETWEEN TEXAS AND ALABAMA

Year in school	Texas* %	Texas* N***	Alabama** %	Alabama** N
Freshman	66	65	66	51
Sophomore	58	40	64	38
Junior	51	78	47	16
Senior	44	115	50	4

* Texas figures are taken from the Holtzman study (3, p. 564).
** Alabama figures are for both men and women.
*** *N* refers to the actual number of cases in the Intolerant Group.

a statistical sense. Fifty-one per cent of the sorority-fraternity members were in the Intolerant Group as compared to 69 per cent of all other students.

As in the Texas study, the size of hometown was not important for the Alabama students. Contrary to the Texas data, however, regional differences were not related to the tolerance of non-segregation. In Texas "the proportion of men belonging to the Intolerant Group varies all the way from .29 for non-Texans to .73 for individuals with homes in East Texas" (3, p. 563). Fifty-four per cent of the non-Alabamians were in the Intolerant Group, and most regions within the state fluctuated around 60 per cent.

3. *Integration Attitude*

There were no systematic relationships between integration-attitude scores and sex, year in school, social class, grade point average, and the size of city. Two factors—religious preference and membership in sorority-fraternity groups—are related to integration-attitude scores. (See Table 2.)

TABLE 2
PER CENT IN THE INTEGRATION GROUP BY RELIGIOUS PREFERENCE

Religious preference	%	N*
Jewish	83	10
None	83	5
Roman Catholic	50	5
Protestant	39	58

Note: Chi square = 13.1; $df = 3$; $p < .01$.
* *N* refers to the actual number of cases in the Integration Group. Fifty-four per cent of the sorority-fraternity students favored integration, compared to 37 per cent of the Non-Greek group who favored integration.

D. DISCUSSION

The data reported in Table 1 suggest that the Alabama group in 1962 appears to be slightly less favorably inclined toward integration than were the Texas men in 1952. Sixty-four per cent of the Alabama men, in contrast to 57 per cent of the Texas men, were in the Intolerant Group. If these

Alabama students are representative of the University, it would appear that the Alabama students in 1962 are slightly more reticent toward integration than were the Texas men in 1952. Successful measures taken to frustrate the Supreme Court ruling have conceivably reinforced some segregationist views; however, the successful integration moves in neighboring states, the negative image of the segregationist created by mass communication media, and the organized efforts of Negroes have all served as countermeasures which may modify student attitudes.

E. Summary

1. A third (34 per cent) of the Alabama students regards the Negro as inferior to the white, and 61 per cent of the group is intolerant of non-segregation. The Image of the Negro is more favorable than is the attitude or the intent. It is difficult to relate this discrepancy to future attitudes.

2. Alabama students who were members of sororities and fraternities were more likely to be tolerant of non-segregation policies and favor more integrated facilities than were the other students. The Texas study had reported 38 per cent of the fraternity-sorority students in the Tolerant Group and 52 per cent of the nonmembers in the Tolerant Group. The reverse is true at Alabama, where 51 per cent of the fraternity-sorority members were intolerant and 68 per cent of the nonmembers were intolerant.

3. In both the Texas and Alabama studies, religion was a significant variable. In Alabama, the Jewish students were more favorable toward integrated facilities than were the Catholics; the Catholics were more favorable toward integration than were the Protestants.

4. The females were more tolerant of non-segregation, and held a more favorable image of the Negro than did the males.

References

1. Greenberg, H. M. The development of an integration attitude scale. *J. Soc. Psychol.*, 1961, **54**, 103-109.
2. Hartley, E. L., & Hartley, R. E. Fundamentals of Social Psychology. New York: Knopf, 1959.
3. Holtzman, W. H. Attitudes of college men toward non-segregation in Texas schools. *Pub. Opin. Quart.*, 1956, **20**, 559-569.
4. Star, S. A., Williams, R. W., Jr., & Stouffer, S. Negro infantry platoons in white companies. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in Social Psychology*. New York: Holt, Rinehart & Winston, 1958.
5. Tumin, M., Barton, P., & Burrus, B. Education, prejudice and discrimination: A study in readiness for desegregation. *Amer. Sociol. Rev.*, 1958, **23**, 41-49.

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THE EFFECTS OF A NONUNANIMOUS MAJORITY ON ATTITUDE CHANGE*

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A. PURPOSE

Asch (1) reports, for his studies of group pressure on the judgments of lines, that the appearance of a compromise partner leads to an increase in compromise judgments on the part of the critical subject and a slight, though not significant, weakening in the overall effect of the majority. The present investigation is concerned with the extension of the study of the compromise partner into the realm of attitude change. Hovland and Sherif have suggested (5, p. 157) that, beyond a certain point (degree or distance of advocated change), individuals tend to reject a message source due to a reduction in credibility of the influencing agent and thus remain largely uninfluenced. One wonders if the compromise partner might not serve to "cushion" the impact of the majority and thereby heighten the credibility of the influencing group. A nonunanimous majority might appear more real or believable.

Thus this study attempts to unravel two alternative possibilities; i.e., the presence of a compromise partner may (*a*) weaken the effect of the majority (1), or (*b*) heighten credibility and thereby enhance the effect of the majority.

B. METHOD

The subjects for the experiment were 78 male students in Elementary Psychology courses who were naive to influence experiments and were given course credit for volunteering.

1. *Procedure*

Six subjects were tested at a time. Each was seated in front of a manila folder in such a manner that he could not see what the other subjects were writing. Each was given a copy of the case history of Johnny Rodriguez and a copy of the rating scale, "Opinions about Johnny" (6, p. 88). The following was read to them:

* Received in the Editorial Office on November 7, 1962. Copyright, 1964, by The Journal Press.

[1] Research conducted while the author was in the Psychology Department at Utah State University, Logan, Utah.

> This is a personality test. This study will tell us something about your personality and your insight into social problems. This case study was selected because, although it is short, it presented a wide range of problems, and the way you respond will be a good indicator of your basic social values, your personality, and your outlook on important life problems. I want to remind you that you will remain anonymous. You will be identified by a number for comparison purposes, only. Before you, you will find a case history of a delinquent named Johnny Rodriguez. Your task will be to read the case history and form your opinion as to what is to blame for Johnny's delinquency. You will indicate on the rating scale marked "Opinions about Johnny" all those opinions you find acceptable based on your reading, with a capital A (for acceptable). All opinions you find objectionable are to be marked with a capital O (for objectionable). Then mark the one opinion you find most acceptable, based on your reading, capital MA (for most acceptable), and the one opinion you find most objectionable capital MO (for most objectionable). Be sure that you mark all opinions with an A or O and have marked one opinion MA and one MO. Are there any questions? When you finish turn your sheets face down in front of you.

As a subject completed this rating, the histories and the ratings were collected. When the last ratings were completed, a confidence scale was handed out and the subject was instructed:

> On the rating scale indicate how certain you are about your judgment on the statement you marked Most Acceptable, MA.

Following the first rating of the case history and the confidence scale, the experimenter[2] read with the group the instructions for the interpolated task. At this point (before the group started work on this task), he announced:

> Professor Gorfein has tallied the opinion you marked Most Acceptable. Since we would like to keep each person's packet together, I am going to return to you your rating scale. Please check to see that the number matches your folder. The numbers in red indicate the tally of opinions thought Most Acceptable by the members of your group. Since there are six persons here, please be sure that the numbers add to six as the tallies will be copied off by clerks who will record exactly what they see. Is everything OK? Place the form in your manila folder. Let's now go on to the next task.

Thus, we could be confident that the group would perceive the discrepancy between their own opinion and that of the majority, as the majority's opinions were placed alongside their own expression of opinion.

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[2] I wish to acknowledge the help of Mr. Larry M. Anderson, who served as experimenter in this study.

Following the completion of the interpolated task, fresh rating scales were handed out and the group instructed:

> In the past in using the case-history method of personality analysis, we have found that immediate judgments are often forced and not representative of some individuals. Now that you have had time to think over Johnny's case, we'd like you once again to rate the 9 opinions about Johnny as if you were doing it for the first time.

Following this, the confidence scale was readministered with the instruction:

> Once more we would like you to indicate how certain you are of your judgment of the Most Acceptable Statement.

2. *Design*

Four basic experimental conditions were employed. These involved four different (falsified) reports to individuals of that opinion which the members of their group thought Most Acceptable. These conditions were (*a*) group unanimous at point the subject initially marked objectionable, (*b*) group unanimous at point the subject marked most objectionable, (*c*) group at point initially marked objectionable with one member at the point marked acceptable, and (*d*) group at point initially marked most objectionable with one member at a point initially marked objectionable.

The subjects were assigned to the four conditions according to whether they initially marked a large (above median) or small (below median) number of opinions acceptable and whether they were initially high (above median) or low (below median) on the confidence scale. This led to a $2 \times 2 \times 2 \times 2$ factorial design. To equalize cell entries for the analysis of variance, the subjects were randomly eliminated to reduce all cells to $N = 4$, the size of the smallest cell.

3. *Scoring*

Amount of change from the first to the second measurement in the position that the subject initially marked MA (Most Acceptable) was scored to provide a simple measure of the effect of the influence attempt.

C. Results

From an analysis of variance across the 16 cells of the experimental design, it is clear that none of the effects reaches significance although there is a strong tendency for subjects with large Acceptance ranges to show more movement in the direction advocated (see Table 1).

Further analysis, however, demonstrates that, while the experimental conditions are not significantly different in the mean amount of movement ob-

TABLE 1
ANALYSIS OF VARIANCE OF MOVEMENT OF THE MOST ACCEPTABLE POSITION*

Source of variation	*df*	*MS*	*F*
Main effects			
Unanimity (A)	1	1.2656	<1
Distance (B)	1	0.3906	<1
Confidence (C)	1	2.6406	1.942
Acceptance range size (D)	1	4.5156	3.322
Interaction effects			
AB	1	0.3906	<1
AC	1	0.1406	<1
AD	1	0.3906	<1
BC	1	1.8906	1.391
BD	1	0.1406	<1
CD	1	0.0156	<1
ABC	1	3.5156	2.5886
ABD	1	0.3906	<1
ACD	1	0.7656	<1
BCD	1	1.8906	1.391
ABCD	1	0.0156	<1
Error	48	1.3594	

* All movement scores were increased by a constant (5) to eliminate negative scores and facilitate the analysis.

tained, differences do exist in the number of individuals who move in the advocated direction.

TABLE 2
COMPARISONS OF EXPERIMENTAL CONDITIONS AS TO THE NUMBER WHO MOVE THEIR MA POSITION IN THE ADVOCATED DIRECTION

Condition compared	Positive movers	Nonmovers or negative movers	Chi square
Nonunanimous	15	17	
Unanimous	10	22	1.64
Close	14	18	
Distant	11	21	.59
Low confidence	17	15	
High confidence	8	24	5.32*
Small acceptance range	10	22	
Large acceptance range	15	17	1.64

* $p < .05$.

Thus we can see that the subject's initial confidence has a definite relationship to his likelihood of changing his opinion in the advocated direction. Initially highly confident subjects are less likely to change.

There is a tendency towards significance of the effects of initial unanimity and initial size of acceptance range when considering the number who move in the advocated direction.

D. Discussion

The results of our study fail to support clearly either the hypothesis set forth by Asch (the weakening effect of the presence of a deviant) or our hypothesis of the "cushioning" effect of the deviant heightening credibility. There is, however, a tendency towards support for the latter hypothesis. A greater number of subjects in the nonunanimous conditions move their MA position in the direction advocated. Due to the effects of closer placement of the message, one would expect these subjects to move less on the average, although more of them should shift their MA position, than those in the unanimous condition, leading to an insignificant analysis-of-variance effect (3, p. 24).

Contrary to the prediction of Hovland and Sherif, there are no appreciable differences in the number who are influenced in the two distance conditions. The present author (4) has presented an alternative interpretation of distance effects which indicates that the so-called anchoring effect may be an artifact of initial position.

Apparently, much more significant are the variables associated with the subject's initial response. Subjects who are initially more confident are less susceptible to influence, as are subjects who initially mark less opinions as acceptable. Numerous studies have reported the effects of confidence. The effect of acceptance range size has been suggested by Hovland and Sherif (5) and reported by Zimbardo (6). These results particularly emphasize the importance of considering subject response components in the preparation and design of attitude-change studies of this type. Results of a previous study (2) have indicated that the subject variables of initial confidence and size of initial acceptance range are not significantly correlated and thus must be varied or controlled independently. Perhaps a new direction in attitude research is suggested; i.e., investigation of factors related to initial confidence and initial latitude of acceptance.

E. Summary

The presence of a compromise partner in a group influence attempt at attitude change was investigated to test two alternative hypotheses: (*a*) the compromise partner will weaken the effect of the group as reported by Asch (1), for yielding behavior; or (*b*) enhance the effect of the group due to the fact that a nonunanimous group might be more credible to the critical subject. Presence of a deviant from the majority produced trends in the direction of the deviant enhancing the influence attempt. The importance of considering such subject response modes as initial confidence and latitude of acceptance is emphasized.

References

1. Asch, S. E. Effects of group pressure upon the modification and distortion of judgments. In E. E. Maccoby, T. Newcomb, & E. L. Hartley (Eds.), *Readings in Social Psychology*. New York: Holt, 1958.
2. Gorfein, D. Individual response components in relation to attempted social influence. Unpublished Doctor's dissertation, Columbia University, New York, 1962.
3. ———. Phenomenal regression and the need for control groups in attitude change studies. *Psychol. Rep.*, 1962, **11**, 23-24.
4. ———. Scaling theory and group influence: A re-examination. *J. Soc. Psychol.*, 1964, **62**, 303-308.
5. Hovland, C. I., & Sherif, M. Social Judgment. New Haven: Yale University, 1961.
6. Zimbardo, P. G. Involvement and communication discrepancy as determinants of opinion conformity. *J. Abn. & Soc. Psychol.*, 1960, **60**, 86-94.

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PEER RANKINGS OF FRIENDLINESS AND STAFF RANKINGS OF MENTAL HEALTH WITH CHRONIC-SCHIZOPHRENIC PATIENTS*

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A. INTRODUCTION

The philosophy of mental-hospital treatment is being scrutinized closely these days in a search for more fruitful variables and approaches. Incisive criticism is directed toward professional thinking in terms of entities rather than processes (8). In our concern with the "treatment of mental illness," we tend to ignore the subjectivity of our measuring devices and the weights we select for our "internal factor analysis" of the degree of illness. Perhaps still more detrimental for treatment purposes are our failure to focus upon the actions of the therapist in a scientific way and our contentment with the institutional practice of considering all actions by professionals equivalent to some sort of therapy (4, 6). Further, we know too little of what interrelationships among patients affect behavior within the group itself.

As one contribution to the understanding of factors which enter into the judgments and labeling activity of hospital personnel, this study attempts isolating rudimentary attitudes and searching for their intercorrelations. Specifically, the following hypotheses were formed.

1. A significant correlation exists between the judgment of ward personnel as to a patient's "mental health" and the patient's evaluation of "friendliness" by a peer group. This supposition is based upon the view that there is an inverse relation between threat and formation of friendships and a positive relation between need reduction and the establishment of friendships. Hence the assumption that the more friendly a patient is considered by patients, the more "mental health" he is assumed to have, because the staff and the patients should be observing an individual's interpersonal contacts as raw material for judgments.

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[1] The author is indebted to Capt. Herbert Reynolds, Aeromedical Field Laboratory, Hollomon Air Force Base, New Mexico, for his suggestions on the main hypothesis and design. Capt. Reynolds was to be senior author, but other research duties forced him to disengage himself from the study.

2. The greater the amount of time spent with patients, the greater the possibility of agreement between a staff-member's perception of the state of a patient's mental health and the average-patient's view of his peer's friendship.

3. Patients who rank themselves as quite friendly in their group are more likely to receive poor evaluations by staff and peers. Defensive narcissism and isolation, it was believed (5, 7), would make for poor mental health and friendliness judgments by others and an overevaluation of the self. This hypothesis, added when the study was in progress, could not be treated with a stable statistical test due to the small sample, and so was evaluated impressionistically.

B. Method

Staff and patients were selected from one building housing four wards of male veterans mainly with chronic-schizophrenic diagnoses. Milieu therapy and tranquilizers represented the bulk of the treatment procedures. Three of the four sections were classified as open, and the building as a whole was part of the Continued Treatment. Seven members of the ward psychiatric team participated in the ratings of patients: one ward psychiatrist, two nurses (head building nurse and a substitute nurse), two nursing assistants (one a building coordinator who worked closely with the head nurse), one psychologist, and one social worker. All had at least one year's experience on the building, and the average time there was approximately four years.

Selection of a group of patients who would admit they knew each other by name was much more difficult than expected. The search was finally narrowed to a psychotherapy group which had been meeting for two sessions a week over a four-month period with the psychologist. To increase the *N*, two other patients, members of previous psychotherapy groups and known by name by the other 10 patients, were added to the pool of *S*s. The resulting group ranged in age from 25 to 50 years, had spent from one year to eight years and five months in mental hospitals, and had been on tranquilizers continuously for at least a year, as shown in Table 1.

Each rater (seven staff and 12 patients) was provided with 66 3 × 5 cards on which two names from the patient group appeared. On half of the total number of cards, the name which was on the top was reversed to appear on the bottom. The patients were tested in groups of three and made their choices independently. They were told: "You have a set of cards, each of which contains two names of patients you know. Place a circle around the name of the patient whom you consider to be the more friendly of the two."

The staff raters were given similar instructions with "better mental health" substituted for "more friendly." These two terms were not qualified in any

TABLE 1
PATIENT DATA AND RANKINGS

Initials	Age	Diagnosis	Hospitalized time Years	Hospitalized time Months	"Friendliness" Self-rating	"Friendliness" Peer rating	Mental health Staff rating	Days out of hospital 6-16-61 to 6-16-62
A	32	Schizophrenia	8	5	2	8	7	7
B	37	Schizoid	3	9	5	5	8	72
C	25	Schizophrenia	6	9	1	10	9	321
D	38	Anxiety reaction	1	0	1	3	5	169
E	29	Schizophrenia	4	2	1	11	6	209
F	31	Schizophrenia	5	10	5	9	10	3
G	34	Schizophrenia	3	5	12	1	4	38
H	43	Schizophrenia	4	9	3	2	2	0
I	26	Schizophrenia	4	11	2	12	12	306
J	50	Anxiety reaction	4	0	2	7	1	61
K	45	Schizophrenia	7	7	12	4	11	3
L	29	Schizophrenia	1	11	2	6	3	333
					Total time out			1522
					Average time out			126.8

way for the raters except in the case of the staff group. The personnel were instructed: "Think of the patient's present condition. Do not make your decision on the basis of the patient's family and financial resources. Judge for yourself which of the two patients would make the better mental adjustment in the average town or city."

Staff members made their judgments at one meeting in an independent fashion.

The rankings of the patients were compiled for each judge to allow for the computation of Spearman rank-order correlations and coefficients of concordance.

C. Results

1. *Present Data*

Coefficients of concordance were computed for the two groups of judges to discover whether or not they were using the same standards in ranking the patients studied. Both coefficients were highly significant. Therefore, the average ranking of each group was regarded as an appropriate approximation of the judgments of both groups (staff ratings, $W = .55$, $p < .001$; patient ratings, $W = .41$, $p < .001$).

Hypothesis 1, which predicted a trend between staff's perception of mental health and patient's evaluation of peer friendliness, was significant between the .10 and .05 levels of confidence ($\rho = .50$). This trend toward correlation of perceptions was made more interesting by a clinical look at the exceptions which lowered the significance of the correlation.

Hypothesis 2, the prediction that involvement with patients—as roughly gauged by the time vis-à-vis with them—would result in increased congruency of staff-patient rankings was supported by the data of Table 2. Although no time studies were made of staff-patient participation, it was the consensus of opinion that the clinical psychologist and the social worker interacted with the present group to a greater extent than the other members of the team. The psychologist was the leader of the psychotherapy group from which most of the *S*s were selected, and the social worker was the only member of the staff available for individual appointments on most of the days. She had interviewed every member of the present sample of patients on frequent occasions. Table 2 gives correlations between peer and individual staff members both with and without each patient's self-ranking on friendliness. Throughout the study, peers' evaluation of each patient was used to give an indication of his stimulus-value to others. The inclusion of a patient's ranking of himself allowed his personal distortion to influence the resultant evaluation. Most noticeable is the failure of the psychologist's correlation to reach the .05 level of significance

when the patient's self-ranking is also considered. Because the psychologist's and the social worker's rankings were closest to the patient's judgments, Hypothesis 2 was considered valid.

Correlations were calculated between each of the two time variables (stay in hospital and total time in psychotherapy groups) and the judges' rankings. The highest intercorrelation here was the positive one ($\rho = .66$, $p < .02$) between the two measures of time: the longer a patient is in the hospital the more time he spends in group psychotherapy, with this particular sample. The remaining results were all in the negative direction. Inverse relationships were noted between rankings by fellow patients and both time in the hospital ($\rho = -.44$) and time in various psychotherapy groups ($\rho = -.45$). These correlations did not reach significance levels, but two correlations were significant beyond the .05 level: the negative relationships between staff rankings and time in groups ($\rho = -.61$), and between staff rankings and time in the hospital ($\rho = -.59$).

To test Hypothesis 3, the assumption of an inverse relationship between the *S*'s own ranking of himself and his evaluation by others on friendship, an arbitrary dichotomy between high and low self-ratings was established. In the former category (HF: favorable judging of the self in relation to peers on the friendship criterion) were scores of 1 and 2, while the low self-ranking group contained scores of 3, 5, and 12 (LF). The median self-score of 2.75 suggests that members of this particular group of patients tend to regard themselves as more friendly than the majority of their fellow *S*s. The results were suggestive of what might be enlightening with a larger sample of *S*s. For example, five of the six patients rated low in friendliness had high self-concepts (i.e., ranked themselves either first or second out of 12 in friendliness). On the other hand, four of the six patients with high ranking in mental health had these high self-rankings. Four of the five low self-raters were placed in the high-friendliness group by fellow group members.

A matrix of Spearman rank-order correlations for the staff raters showed that five of the six significant correlations were between the members of the central-authority cluster: psychiatrist, two nurses, and the building coordinator. Since the rankings of this core of building-authority structure did not correlate appreciably with patient's perceptions of friendship qualities, further correlations were undertaken with the time variables. Significant negative correlations were found between the head nurse's and the nursing assistants' mental-health rankings and the patient's time in the hospital, and between the building coordinator's and the psychologist's rankings and the two time measures.

TABLE 2
SPEARMAN RANK-ORDER CORRELATIONS OF MENTAL-HEALTH RANKINGS

		Staff with Staff						Staff with Patient Rankings in Friendliness		Staff with Time Records		
	1	2	3	4	5	6	7	Self-ranking included	Self-ranking excluded	Hospital time	Group-therapy time	Time out
Psychiatrist	1	.70*	.72**	.57*	.44	.43	.39	.30	.27	—.31	—.45	—.10
Head nurse	2		.52*	.81**	.44	.45	.43	.36	.30	—.54*	—.07	.24
Nurse	3			.48	.46	.13	.28	.04	—.01	—.03	—.05	—.03
Coordinator	4				.50	.45	.40	.34	.43	—.54*	—.65*	—.08
Nursing ass't.	5					.66*	.47	.36	.38	—.51*	—.48	.01
Psychologist	6						.36	.48	.55*	—.74**	—.65*	.05
Social worker	7							.75**	.71**	—.04	—.24	—.36

* $p < .05$.
** $p < .01$.

2. *One Year Follow-Up*

After the ranking procedure by the judges and some informal discussion of the experiment, the study was not evaluated or mentioned to ward personnel or patients for a period of one year. At that time the patients' medical records were studied to determine present hospital status and their extra-hospital time during the year. The latter category includes trial visits, leaves of absence, elopement, and passes which entailed a trip beyond the local city. Table 1 indicates an average of almost 127 days outside the hospital setting during the follow-up period ranging from no time to 333 days. K and F both spent three days outside the hospital setting, but F was considered to have accumulated more leave because he worked for two weeks in town, on daily passes. One patient, B, has been discharged to a Veterans Administration domiciliary. Shortly after the end of the study, one more patient, I, was discharged into his own custody.

The ranking of patients on time out of the hospital was dichotomized into two equal groups, high time out and low time out. The patients' HF and LF rankings compared with these data in the following manner: five out of six of the high-time-out category were in the HF group. Four of five with LF self-rankings were in the low-time-out class. The time-out variable failed to attain the arbitrary level of significance, but had negative correlations with peer ratings ($\rho = -.43$) and time in the hospital ($\rho = -.41$). The sole positive correlation with time out was represented by the insignificant correlation with time in group psychotherapy ($\rho = .15$). An added correlation was designed to test whether each staff member's ranking of patient's mental health had any relationship to actual time away from the hospital during the ensuing year. The last column of Table 2 shows predominantly negative correlations, none of them significant.

D. Discussion

It is not very surprising to discover a greater-than-chance concurrence of opinion in two groups, staff and patients, the members of which have interacted for a period of months. Within the staff group, the traditional medical cluster showed the most salient concurrence on mental-health status of patients. It was taken for granted, on empirical observational data, that the two people with the most pronounced agreement ($\rho = .81$)—the head nurse and the nursing assistant designated as building coordinator—influenced each other greatly in daily management of the ward. The writer (psychologist) and the social worker were the two members of the staff whose judgments of mental health were significantly correlated with patients' perceptions of friendliness.

For the group studied, these two workers probably spent much more time with the patients than did other members of the staff. The social worker, who did not participate in the psychotherapy group, was probably more influenced in her rankings by what the patients said about their own friendliness than was the psychologist. The latter was apparently influenced by reactions of others to the patient and to length of time in the hospital and in psychotherapy groups. The two nursing assistants and the head nurse were also following the maxim that a patient who remains for long in the hospital must really be "sick." The head nurse and the nursing assistants did not seem to take time in groups into consideration in their evaluations. It is of some interest to report that they were not responsible for bringing patients to group sessions and did not regularly attend staff discussions with the psychologist as did the building coordinator. He was the only member of this staff sample who did so on a regular weekly basis, a fact which possibly accounts for some of the agreement between the psychologist and the coordinator.

The particular clusterings of opinion noted represent strengths and weaknesses of the team. In spite of the recent criticism of the team approach (6), its use still appears eminently valid, but only if freedom of discussion and an honest appraisal of judgmental factors involved are positively reinforced. Undoubtedly the greatest preventer of staff harmony is the subtle double bind, where staff members are told they are important diagnostic and therapeutic agents; yet this assertion is countermanded by actions of significant others, and recognition of the incongruity is punished (3, 7). The greatest value of the team concept comes from the realization that different facets of a patient's behavior are seen by different people and that these people respond to the same actions differently depending on a number of factors, one being the ability to enter discussions freely. As psychotherapy can degenerate into brainwashing —depending upon the value systems of the psychotherapists—so can the prime elements of the psychiatric team (e.g., perceptions of different behaviors and divergent evaluation of the same behavior for rational and irrational reasons) be used for nontherapeutic manipulations. In the writer's opinion, one cannot logically impugn the treatment-team concept; one can only on occasion question certain unexpressed goals of the members.

In this study, friendliness toward other patients, shorter periods of hospitalization, high ranking of one's own friendliness, and freedom from behavior which disrupted established routine combined to give favorable rankings by the staff on mental health. The exceptions to the assumption of a significant congruence of patients' perceptions of friendliness and staff evaluation of mental health are perhaps more instructive than the correlation. The three

cases in point—J, K, and E—were evaluated quite differently by patients and personnel.

J and K were the masters-at-arms for the two functioning patient clubs on the building. In such roles, J and K possessed nebulous authority, never actually "spelled-out" for them but including general responsibility for keeping their wards neat and functional by delegating duties to other patients. This job might be considered one of the most difficult in the hospital, because the patient so chosen is an authority figure without the protection of personal symbols of authority. He lives with his fellow patients and frequently feels impelled to motivate interest and to reward withdrawn patients according to his own values where medication and milieu therapies have failed. He frequently is regarded by peers as a scapegoat for hated authorities, past and present. As a rule, patients elected to this key position by fellow patients fall into two distinct groups. The larger group withdraws, and becomes more passive and confused under the weight of the responsibility entailed. The other typical reaction is a blustering, ruthless, dictatorial assumption of power, and an unsuccessful application of excessive pressure on withdrawn patients.

K was an exception to the common rule. He had held his master-at-arms post for the six years since the inauguration of the club. During the last two years, he had become adept at studying individual differences and applying pressures and rewards adroitly. K was a massive repressor who assiduously denied hostility and at least once a year had to cope with more aggressive patients who wanted the symbol of authority removed. Usually they attacked K at his most vulnerable spot, his symptoms. He experienced anxiety and panic when he was required to wear underclothing, socks, and other clothing that he considered "uncomfortable." Personnel were made extremely uncomfortable by K's penchant for washing, drying, and hoarding "comfortable" clothes on the ward, especially during inspection days. Rivals of K complained about this misbehavior and precipitated lengthy staff discussions and new tactics toward K. So, patient ranking = 4; staff ranking = 11.

J was generally content with the staff's regulations, which he magnified in the direction of severity toward fellow patients in his master-at-arms role on a more chronic ward. He always kept his personal assignments, had learned to paint, had learned to play the piano well, and freely admitted that he found much more happiness in the hospital than in his previous homes. Each summer he departed on a trip for one to three months, unaccompanied. Patients clashed with him or withdrew from his authoritarian lack of compassion, but he was seldom a bother to the staff. Consequently, patient ranking = 7; staff ranking = 1.

E was usually quite withdrawn, admittedly with no friends. When he was anxious, his sparse verbalization would become nil, and he whistled, hummed, giggled, and drummed his fingers in group-therapy sessions. In his relations with the staff, he always maintained his favorite assignment, farm worker, which kept him away from the building during the day. Patient rating = 11; staff rating = 6.

The main hypothesis of essential agreement between staff ratings and patient ratings was predicated upon the assumption that the patients would react similarly before both sets of judges and/or all raters would be reacting to fairly stable patient-patient interactions in making ratings (e.g., friendliness-unfriendliness toward fellow patients). Within wide limits, this assumption appears to apply; yet there are the striking exceptions mentioned above.

The inclusion of the time-out variable added an interesting facet to the study. This variable was one which was partially controlled by the decision of the individual patient as well as by his family and his ward psychiatrist. That is, elopement from the modern mental hospital is not a difficult feat in view of open wards and gates. In fact, the act does not appear to have the significance that was once automatically given to its occurrence. Certainly, such a generally impulsive and almost always clandestine act is not the epitome of maturity, but sometimes patients whose negative actions have estranged them from home and hospital personnel can learn not to repeat such actions elsewhere, but to substitute responsible assertiveness instead. In this experiment, subject I illustrates this view. It is relatively easy for the average patient to leave the hospital but difficult to stay out unless he changes chronic patterns of immature assertion, denial, overdependency, and concomitant outbursts of displaced hostility.

It was to be expected that group time and hospital time would be significantly related, because the longer time in the hospital gives the more opportunity to be selected for group psychotherapy. But a more critical examination of the correlation could also raise the question as to why the opposite result should not be just as valid. In other words, why does not the psychologist give up on patients who do not respond sufficiently to be discharged and refuse to consider them for new groups? The answer here probably follows from the symptoms of the chronic, institutionalized patient and the general reactions to them. Patients are seldom forced into groups, and their avoidance reactions are not blocked in the manner of Rosen's (2) treatment structure. There are many ruses a hospitalized patient can learn to escape group attendance. So the nucleus of each group is generally composed of a body of patients who have experienced enough satisfaction to enter group psycho-

therapy voluntarily and yet have not reached sufficient remission (and/or lack external resources) to leave the hospital.

The study suggests that as a patient's stay in the hospital becomes prolonged, he unwittingly acquires the labels of "chronic" and "sick" which further decrease his chances of leaving. He loses social skills and interests and, if accepted as institutionalized by personnel and patients, usually will not try to take unauthorized leave. The negative relationships between time out and peer rating and between time out and hospital time add credence to this statement, even though they lack arbitrary statistical significance. Patients, such as H, G, and K, who were accepted by peers were not under such tension to leave and to stay out of the hospital; therefore, they remained.

The three patients in individual psychotherapy at the time of the ratings managed to stay out of the hospital for almost the complete follow-up period. B was the only other subject out of the hospital on the follow-up date. (He was discharged to a Veterans Administration domiciliary). This phenomenon must be examined from two angles: the decision to release the patients and the ability of the patients to remain outside (or the tolerance of those in the surroundings). The writer, as building psychologist, also served in the role of consultant and suggested to the psychiatrist possible changes in the patients' routines. So he is not a neutral figure in the decision-making process even though for scientific study more objectivity is desirable. The individual psychotherapy had as a goal the patient's re-evaluation of himself to find and to develop attitudes and behaviors which would gain him realistic self-esteem. One of the secondary tactics was to have him recognize his own activity in keeping conflicts going and to learn to avoid such. The three cases are examples of at least temporary introjection of the latter subgoal. These three patients averaged worse than nine on friendliness and eight on mental health, while they rated themselves better than two on friendliness—hardly the paragon of therapeutic success. Such enhancing self-ratings (probably defensive in character because the brittleness was apparent in individual psychotherapy) were evaluated in opposite fashion by the judging groups. A noticeable trend was for the high self-raters to be evaluated negatively by peers and high by the staff, and to spend relatively more time out of the hospital than did the low self-raters. This tendency, which must be considered an hypothesis for testing with a larger group, could be accounted for by the following explanation suggested by clinical evidence. A chronic patient, after he has developed his particular "psychotic insight" (1), may learn after considerable testing to suppress such verbalizations. Such stabilization can gain more approval from occasional observers and keep him relatively free from trouble compared

to the more anxious acutely disturbed patient who lacks the mixed blessing of disguised delusions. Yet the defensive narcissism can preclude friendship formation and not gain sympathy from peers, as overt anxiety frequently does.

It is not surprising for veteran team members to know that their rankings of patients on a mental health-illness continuum bears little relationship to their stay away from the hospital. Little pressure is exerted on the "better patients" to leave, while the opposite is sometimes subtly true for the more troublesome patient. In many cases, family financial and community vicissitudes, mainly unpredictable, also exert tremendous influence upon discharge and subsequent adjustment.

In further studies, a differentiation between neurotic and psychotic needs and their healthy counterparts will be attempted to gauge the measurability and importance of such in friendship structure. The author believes that the psychotherapist successful with a schizophrenic patient personally reduces the tensions of the patient whenever possible—even those which stem from irrational defensive needs in the attempt to become a significant positive figure. When the latter goal is attained, the psychotherapist can then begin to teach and to reward more mature behaviors which gain realistic esteem for the patient. But what do patients do? Being unschooled in empathy, they may short-circuit the ideal approach and be judged as rejecting by other patients. It may be that with a group of chronic schizophrenics the judgment of others is predicated upon tension reduction from satisfaction of psychotic needs solely. The friend, therefore, is one who does not threaten one's withdrawal and dependency patterns.

This type of study which requires but little outlay of time and effort has possibilities as a routine procedure for both patient planning and staff discussion of the reasons for differences in perception of patients. In other words, are the discrepancies the result of observations of different kinds of behavior or of the same type under varying conditions? Or are the evaluations motivated by reactions to the patient's past or present record? Then there is always the chance that irrational countertransference elements enter into a supposedly "objective" rating. Here is an example where both staff and patient functioning can benefit from clinical research.

E. Summary

This study is an initial attempt to gain empirical information on the evaluation process of patients and personnel on a continued-treatment building housing mainly chronic-schizophrenic patients. Because of the small number of

*S*s and the few hypotheses, the project was designed to be more hypothesis-making rather than hypothesis-testing.

A positive trend was found between staff evaluation of a patient's mental health and peers' views of his friendliness. Exception to this relationship arose mainly when the patient displayed two different behaviors to the two groups.

Staff agreement centered in the traditional medical core of psychiatrist, nurses, and building coordinator. The two members who spent the most time with patients produced mental-health rankings more congruent with patient's rankings on friendliness. Length of hospitalization seems to be a factor in staff rankings and, to some extent, in patients' rankings.

There is some evidence that patients with high self-rankings are ranked high by personnel on mental health and low by peers in friendliness, and spend more time out of the hospital. Staff perception of mental health is not significantly correlated with amount of time outside the hospital during the ensuing year.

References

1. Arieti, S. The Interpretation of Schizophrenia. New York: Robert Brunner, 1955.
2. English, O., Hampe, W., Bacon, C., & Settlage, C. Direct Analysis and Schizophrenia. New York: Grune & Stratton, 1961.
3. Fry, W. Destructive behavior on hospital wards. *Psychiat. Quart. Suppl.*, 1959, **2**, 1-35.
4. Lehrman, N. Do our hospitals help make acute schizophrenics chronic? *Dis. Nerv. Syst.*, 1961, **22**, 1-5.
5. Mednick, S. A learning theory approach to schizophrenia. *Psychol. Bull.*, 1958, **55**, 316-327.
6. Mouratides, N. Chronicity and decision making among professionals in mental hospitals. *Newsltr. for Coop. Res. in Psychol.*, 1960, **12**, 16-23.
7. O'Connell, W. Ward psychotherapy with schizophrenics through concerted encouragement. *J. Indiv. Psychol.*, 1961, **17**, 193-204.
8. Szasz, T. The Myth of Mental Illness. New York: Hoeber, 1961.

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PANIC IN ORGANIZED COLLECTIVITIES*

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A. PURPOSE

One aspect of group behavior which has received little attention is that of panic behavior. The existing literature has tended to focus on panic in unorganized mobs or crowds. The analyses of the panic behavior in the famous Cocoanut Grove Fire (32) and the "Invasion from Mars" broadcast (8) are representative of this type of study.

Brown (5) suggested that, in the study of panic behavior, it is important to distinguish between unorganized and organized collectivities. McDougall (22) defined organized collectivities as those possessing the following characteristics: continuity of existence, awareness of membership, interaction with other organizations, a body of traditions, and differentiation of function. Unorganized collectivities were characterized by the absence of the above. An example of the former would be the Church or the Army, while the latter would be exemplified by street crowds or a theatre audience.

It is the purpose of this paper to review the literature on panic in organized collectivities (i.e., military groups) and to present a theoretical framework within which this behavioral phenomenon may be explained. The understanding and prediction of the behavior of organized formal groups cannot be considered complete without the ability to predict those conditions which are likely to cause the group no longer to function, or even to exist, as a group.

Examination of the literature on military panic reveals little substantive material suitable to analytic treatment. For the most part, the literature is very speculative and abstract in nature. With a few exceptions (3, 20), it is difficult to find actual descriptions of military panics either by participants or by eyewitnesses. Most of the generalized accounts to be found are of limited utility because of their inaccuracy and/or inadequacy (26).

B. THE NATURE OF PANIC

Foreman (15) suggested that there were two conceptions of panic prevalent in the sociological and social-psychological literature. The first conception, as

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represented by Cantril (7) and Janis (18) refers to the feelings and/or the overt behavior of a terrorized individual—a person who is utterly demoralized or distraught, and then gripped by an intense state of fear and anxiety. This intense emotional state, according to this point of view, may or may not lead to flight behavior.

The second conception of panic noted by Foreman (15) considers rout or flight behavior occurring in face-to-face contact groups to be the central core in the definition of panic behavior. A second point of difference between these conceptions refers to the perceived possibility of escape as a factor in panic behavior. The first point of view states that panic rarely occurs unless no possibility of escape exists, while the second position contends that panic will occur *only* when avenues of possible escape are evident.

The basic assumption of this paper is an acceptance of the second point of view. Thus, panic is defined in accordance with Quarantelli (26) as "an acute fear reaction marked by a loss of self-control which is followed by nonsocial and nonrational flight behavior." To this may be added the notion that panic occurs only in the presence of the perceived possibility of escape from the threatening situation.

In his excellent analysis of the nature of panic, Quarantelli (26) examined both overt and covert features of panic. The most outstanding overt feature was found to be flight from a threatening situation. Hence, in panic, there is no attempt to control or manipulate the threat where this is a possibility. "The only action taken toward the threat is to get away from it" (26).

Quarantelli (26) conceives of panic as being nonsocial rather than antisocial; i.e., there is a complete breakdown in group cohesion and there is no attempt to act jointly or in cooperation with others.

As to the covert features of panic, Quarantelli (26) noted that the prime factor is a very direct and immediate sense of threat to physical survival leading to intense fear and loss of self-control. Quarantelli also suggests that panic is nonrational rather than irrational in that panic participants do not consider the consequences of their flight behavior nor do they consider alternative courses of action.

C. Conditions Causing Panic

There exists a wide spectrum of opinion in the literature as to the causes of military panic. The one theme prevalent in most discussions of military panic is that of fear and the immediate threat to physical survival. Loss of confidence in the group's leader is often mentioned as a cause (1, 4, 11, 12, 21, 27, 28, 31). LaPiere (19); Farago (14); Stone (30); and Caldwell,

Ranson, and Sachs (6) consider the perception of a threat for which there is no prepared or routinized behavior as a prime cause. Prolonged waiting in anticipation of battle is noted as a cause by Eltlinge (13), Brousseau (4); and Farago (14).

Some writers have stressed individual predispositions to panic. Strauss (31), in surveying this literature, divided these factors into the following: (*a*) those that physically weaken men—like intoxication, bad health, poor nourishment, or fatigue; (*b*) those that lessen mental ability—like confusion, doubt, and uncertainty; and (*c*) those that produce high emotional tension and heightened imagination.

Foreman (15) lists the following predisposing conditions to panic: (*a*) acute fatigue which weakens individuals organically, (*b*) worry about lack of information concerning expected attacks which creates acute emotional tensions and anxiety, (*c*) novice or stranger status which prevents or impoverishes self-satisfying group identifications, and (*d*) awareness of such weapons as guided missiles and napalm which incite chronic social unrest.

D. Discussion

Thus, the literature suggests the operation of a set of variables which may predispose an organized collectivity to panic flight. Foreman (15) noted that "although background conditions are not causal factors of panic, deliberate attempts to induce or reinforce terror or panic should succeed more readily where conditions known to be present in prior instances are clearly present and compounded." These predispositional variables would seem to operate to weaken men both physically and psychologically, and so cause them to be more easily influenced by rumor and suggestion and to render them less capable of rationally interpreting ambiguous situations.

The literature also suggests the operation of certain variables which are capable of precipitating panic flight, either in combination with the predispositional variables or independently if of sufficient intensity.

Brown (5) noted that practically every writer on panic invokes at least one principle of contagion. Imitation, mimicry, and suggestion are mentioned by Percin (25); Eltlinge (13); Brousseau (4); Munson (24); Maxwell (21); Coste (11); Strauss (31); Caldwell, Ranson, and Sachs (6); and Quarantelli (26). In an investigation of seven panic incidents in World War II, Marshall (20) found that each incident had the same origin: the sight of a few members of the group in full and unexplained flight to the rear. One or a few men made a sudden run to the rear, which others in the vicinity did not understand.

> In every case, the testimony of all the witnesses clearly developed the fact that those who started to run, and thereby spread the fear which started the panic, had a legitimate, or at least a reasonable excuse, for the action. It was not the sudden motion which of itself did the damage but the fact that others present were not kept informed (20, p. 146).

Unfortunately, these accounts gave no indication of the existence of any of the predispositional variables discussed above.

The second precipitating variable involves the exposure to a threat (i.e., weapon) for which there is no prepared behavior. This was exemplified in the First World War when the Germans introduced two new and (at the time) terrifying weapons for which there had been no training on the part of the Allied troops—gas warfare and the *Flammenwerfer* (flamethrower). A complete panic flight was the result with those who survived the initial assaults by these weapons (2). In subsequent exposures, however, after informational and training programs had been given the Allied troops, the incidence of panic was extremely rare. The troops had learned of the nature of the weapons and how to cope with them.

With respect to the predispositional variables, the point is made that all the factors mentioned above are found by definition in combat at one time or another. Yet, history does not record a high incidence of panic among military groups. That these conditions have been noted in troops who have panicked seems to be true, but that military units have experienced these conditions, often to a high degree of intensity, and not panicked is equally true. To what, then, can be attributed the occurrence of panic behavior in military groups?

An explanatory model based upon the concept of group cohesiveness is offered. Cartwright and Zander (9) discuss a cohesive group as one in which the members all work together for a common goal and everyone is ready to assume responsibility for the group tasks.

> The willingness to endure pain or frustration for the group is yet another indication of cohesiveness. Finally, we may conceive of a cohesive group as one in which its members will defend against external criticism or attack (9, p. 74).

With the added notions that (*a*) the group may become a haven for protection from a threatening environment and thus become a means to satisfy the need for security (17), and (*b*) there are external restraints which serve to keep the group intact; a small army unit would seem reasonably to fit the definition of a cohesive group.

It is but a short step to make the further assumption that the small

cohesive army unit can be considered a primary group (10) in that it is characterized by an intimate, face-to-face relationship, a warm emotional tone, and involves close physical proximity.

In a military environment, the individual soon finds himself isolated from his civilian primary group. Shils and Janowitz (29) suggested that, as a result, the individual soldier comes to depend more and more upon his military primary group for satisfaction of basic needs, affection, security, status, etc. Serving to reinforce the satisfactions and the demands and expectations of this group are the officially prescribed rules and external authority which serve to hold his aggressiveness in its proper context.

Thus, in their analysis of the ability of the Wehrmacht to maintain a high degree of organizational integrity in spite of their continual strategic reverses, Shils and Janowitz (29) conclude:

> Where conditions were such as to allow primary group life to function smoothly and where the primary group developed a high degree of cohesion, morale was high and resistance effective. . . . The motivation of the determined resistance of the German soldier was the steady satisfaction of certain primary personality demands afforded by the social organization of the army.

Accordingly, it is hypothesized that the social disorganization of panic in organized collectivities is dependent to a large measure on the capacity of the immediate primary group to avoid social disintegration. When this primary group is able adequately to satisfy the individual's physiological and social-psychological needs, then the element of self-concern is minimized. Conversely, when the primary group life is disrupted by the predispositional and/or precipitating variables discussed above, an intensity of preoccupation with physical survival develops and the attraction to remain a member of the group is minimized.

Studies of combat personnel (17) have emphasized the importance of group identification as a major motivational factor underlying efficient performance in the face of danger. Inherent in this is the notion that the tendency to abandon one's duty or to escape from the situation is often held in check by the strong motivation to avoid letting the other members of the group down.

An interesting heuristic outgrowth of this conceptualization would be a replication of the study by Mintz (23), who suggested that the nonadaptive character of panic behavior can be explained in terms of the perceived reward structure of the situation. His results were interpreted as confirming the theory that panic results from the perception of an unstable reward structure.

It would seem worthwhile to replicate Mintz's study using as *S*s groups varying in degrees of cohesiveness.

Discussion of other theories which have been advanced to explain panic behavior is beyond the scope of the present paper. The reader is referred to McDougall (22), Freud (16), LaPiere (19), Mintz (23), and Foreman (15).

References

1. Andrews, L. Military Manpower. New York: Dutton, 1920.
2. Auld, S. J. M. Gas and Flame in Modern Warfare. New York: Doran, 1918.
3. Belden, J. Still Time To Die. New York: Harper, 1943.
4. Brousseau, A. Essai sur la Peur aux Armées, 1914-1918. Paris: Alcan, 1920.
5. Brown, R. W. Mass phenomena. In Lindzey, G. (Ed.), *Handbook of Social Psychology*. Reading, Mass.: Addison-Wesley, 1954. Ch. 23.
6. Caldwell, J. M., Ranson, S. W., & Sachs, J. G. Group panic and other mass disruptive reactions. *U. S. Armed Forces Med. J.*, 1951, **2**, 541-567.
7. Cantril, H. The causes and control of riot and panic. *Public Opin. Quart.*, 1943, **7**, 669-679.
8. Cantril, H., Gaudet, H., & Herzog, H. The Invasion from Mars. Princeton: Princeton Univ. Press, 1940.
9. Cartwright, D., & Zander, A. Group Dynamics: Research and Theory. White Plains, N. Y.: Row, Peterson, 1953.
10. Cooley, C. H. Social Organization. New York: Scribner, 1909.
11. Coste, C. Le Psychologie du Combat. Paris: Berger-Levrault, 1929.
12. Cygielstrejch, A. La psychologie de la panique pendant le guerre. *Année méd. Psychol.*, 1916, **I**, 176-192.
13. Eltlinge, L. The Psychology of War. Fort Leavenworth: Press of the Army Service School, 1917.
14. Farago, L., *Ed.* German Psychological Warfare (3rd ed.) New York: Putnam, 1942.
15. Foreman, P. B. Panic theory. *Sociol. & Soc. Res.*, 1953, **37**, 295-304.
16. Freud, S. Group Psychology and the Analysis of the Ego. London: Hogarth, 1922.
17. Grinker, R. R., & Spiegel, J. P. Men Under Stress. Philadelphia: Blakiston, 1945.
18. Janis, I. L. Air War and Emotional Stress. New York: McGraw-Hill, 1951.
19. LaPiere, R. T. Collective Behavior. New York: McGraw-Hill, 1938.
20. Marshall, S. L. A. Men Against Fire. New York: Morrow, 1947.
21. Maxwell, W. N. A Psychological Retrospect of the Great War. New York: Macmillan, 1923.
22. McDougall, W. The Group Mind. Cambridge, Eng.: Cambridge Univ. Press, 1920.
23. Mintz, A. Nonadaptive group behavior. *J. Abn. & Soc. Psychol.*, 1951, **46**, 150-159.
24. Munson, E. The Management of Men. New York: Holt, 1921.
25. Percin, A. Le Combat. Paris: Alcan, 1914.
26. Quarantelli, E. The nature and conditions of panic. *Amer. J. Sociol.*, 1954, **60**, 267-275.
27. Rickman, J. Panic and air raid precautions. *Lancet*, 1938, **1**, 1291-1295.

28. SCHMIDEBERG, W. The treatment of panic in casualty area and clearing station. *Life & Letters Today,* 1939, **23**, 162-169.

29. SHILS, E., & JANOWITZ, M. Cohesion and disintegration in the Wehrmacht in World War II. *Public Opin. Quart.,* 1948, **12**, 280-315.

30. STONE, T. E. Man, fear, and panic. *Infantry J.,* 1941, 349.

31. STRAUSS, A. L. The literature on panic. *J. Abn. & Soc. Psychol.,* 1944, **39**, 317-328.

32. VELTFORD, H. R., & LEE, S. E. The Cocoanut Grove Fire: A study in scapegoating. *J. Abn. & Soc. Psychol.,* 1943, **38**, 138-154.

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AUTHORITY STATUS AS A FACTOR IN PERCEPTUAL DISTORTION OF SIZE*

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A. INTRODUCTION

A number of investigators have noted the influence of motivational or value factors on perceptual judgments of magnitude. *S*s have been found to perceive coins as larger than cardboard discs of similar size (2), to overestimate the sizes of index cards in accordance with the monetary values assigned to them (7), and to perceive discs embossed with symbols of high and low social value as larger than discs of the same size embossed with a neutral symbol (3). Value factors associated with food objects have also been found to influence perceptual judgments. In an experiment by Dukes and Bevan (8), jars filled with candy were judged as heavier than jars of equal weight filled with sand. Similarly, Beams (1) reported that children perceive favorite food objects as larger than less desired food objects.

Using a somewhat different approach to the problem of value in perception, Solley and Haigh (11) had children draw pictures of Santa Claus at varying intervals of time before and after Christmas. As Christmas approached, the drawings became larger and more elaborate; then following Christmas, they diminished markedly in size and detail. These findings were partially substantiated in a recent experiment by Craddick (6).

The present study was a further investigation of the relationship between value and perceptual distortion of size. It differed from the earlier works, however, in that estimates were made of particular living persons rather than of conceptual persons or physical objects. Specifically, the purpose of this study was to determine whether perceptual judgments of height would be influenced by the authority status of the person being evaluated. It was hypothesized that, as authority status increased, there would be an increasing tendency to perceive the individual as taller than she actually was.

B. METHOD

Forty-six freshmen in a school of nursing were asked to estimate, to the nearest half inch, the heights of the assistant director of the school, one of

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their instructors, the president of their class, and a specified fellow student. *S*s had been in regular contact with all four persons for a period of two months prior to the time when the study was conducted.

When *S*s had finished making their estimates, and had turned their papers facedown on the desks, they were given a second sheet of paper and asked to draw a picture of the assistant director of the school. The instructions indicated that *S*s should try to draw a good picture, but without being overly concerned about artistic detail. When the drawings were completed and turned facedown on the desks, *S*s were asked to draw, on a third sheet of paper, a picture of the fellow student whose height they had previously estimated. Finally, *S*s were instructed to write their names on each paper, unless they wished to remain anonymous, in which case they were to put a single identifying characteristic on each paper instead of their names. All drawings were made on standard white bond, which was furnished by *E*.

The four persons whom *S*s were asked to estimate and draw were selected for several reasons. All were well known to the students, and their positions of authority and responsibility were judged to represent a progressive hierarchy from low to high. In addition, their actual heights were such that one student (the class president) and one staff member (the assistant director) were about average in height, while the remaining student and staff member were relatively tall women.

C. Results

A measure of perceptual distortion was obtained for each authority figure by averaging the differences between her actual height and the estimates of height made by *S*s. Examination of Table 1 shows that the tendency to over-

TABLE 1
Mean Perceptual Distortion Score for Each Authority Figure

Authority figure	Actual height	Mean distortion score[a]
Assistant director	64.5	.44
Instructor	68.0	.30
Class president	66.0	—.67
Fellow student	69.0	—.75

Note: All values expressed in inches.
[a] Each distortion score based on *N* of 46.

estimate height was directly related to authority status. The heights of both staff members were magnified, with that of the assistant director being magnified to the greater extent. On the other hand, the two students were estimated to be shorter than they actually were, the fellow student being reduced by the greater amount.

Analysis of variance indicated that the differences between the perceptual distortions for the four authority figures were statistically significant ($F = 17.44$; $p < .001$). The mean perceptual-distortion scores for the various figures were then compared by t test, the results of which are presented in Table 2. Without exception, the differences between student and staff figures

TABLE 2
CRITICAL RATIOS BETWEEN VARIOUS MEAN DISTORTION SCORES

Authority figure	Instructor	Class president	Fellow student
Assistant director	.65	4.35*	5.06*
Instructor		4.61*	6.09*
Class president			.55

* $p < .001$.

were found to be highly significant ($p < .001$). However, the assistant director was not significantly different from the instructor, nor was the class president significantly different from the fellow student.

The length of each drawing was obtained by measuring the distance from the bottom of the foot to the uppermost portion of the head. Drawings of the assistant director averaged 12.23 cm in length, while those of the fellow student averaged 11.75 cm. The difference between these values was not statistically significant.

D. DISCUSSION

As hypothesized, there was a significant relationship between perceptual distortion of height and the authority status of the person being evaluated. It is interesting, however, that the four authority figures seemed to represent only two distinct levels of status—a higher level (comprised of the two staff figures) and a lower level (comprised of the two student figures). Significant differences appeared *between* status levels (i.e., student *vs.* staff), but not *within* status levels (i.e., student *vs.* student, or staff *vs.* staff).

It is also noteworthy that the heights of the two student figures were underestimated, whereas those of the two staff figures were overestimated. This curious phenomenon has now been obtained by a number of investigators under various experimental conditions. For example, Bruner and Rodriques (4) and Carter and Schooler (5) found a tendency for small coins to be underestimated and for large coins to be overestimated. Similar results were obtained by Mansvelt (10), using various sizes of cardboard squares and triangles.

Tajfel (12) has attempted to explain this phenomenon with his hypothesis of accentuation of differences. His basic premise is that objects in a series influence one another in such a way as to maximize differences between them,

and thereby minimize the risk of confusion. Tajfel interprets the following comments by Hochberg (9, p. 130) as being the counterpart of his hypothesis in the field of social perception:

> If a group of individuals is perceived as different from the non-group individuals, the perceived differences between those within the group and those outside the group will automatically be sharpened, and the differences perceived between the members of the group (i.e., intragroup differences) and between those outside the group will be lessened.

As indicated in the previous section, the drawings of the assistant director and the fellow student were not significantly different in length, though the results were in the expected direction (*viz.*, mean lengths of 12.23 and 11.75 cm respectively). There would appear to be two possible explanations as to why significant results were obtained with the height estimates, but not with the drawings. For one thing, the fellow student was a much taller woman than the assistant director (69″ *vs.* 64.5″), which may have counteracted, at least in part, any tendency which *S*s had to draw substantially larger pictures of the latter. This factor, however, was no problem in the height-estimate phase of the study, because estimates were not compared directly, but were first converted to distortion scores by subtracting actual from estimated values.

Secondly, when two drawings are made in immediate succession, there may be a natural inclination to be relatively cautious and restricted in drawing the first—then somewhat more expansive and elaborate in drawing the second. If this hypothesis (which is currently being investigated by the writers) proves to be correct, then the obtained result may be attributed to the fact that *S*s drew the assistant director before the fellow student.

E. Summary

The purpose of the present study was to determine whether perceptual judgments of height would be influenced by the authority status of the person being evaluated. Forty-six nursing students were asked to estimate the heights of the assistant director of the school, their instructor, their class president, and a specified fellow student. They were then asked to draw pictures of the assistant director and the fellow student.

Results indicated a significant relationship between authority status and perceptual distortion of size. The two staff figures were overestimated in height, with the assistant director being overestimated to the greater extent. The two student figures were judged to be shorter than they actually were, with the fellow student being reduced by the greater amount. Similar, though nonsignificant, tendencies were noted in the drawings which *S*s made. Certain

of the findings were discussed in conjunction with Tajfel's hypothesis of accentuation of differences.

References

1. Beams, H. L. Affectivity as a factor in the apparent size of pictured food objects. *J. Exper. Psychol.*, 1954, **47**, 197-200.
2. Bruner, J. S., & Goodman, C. C. Value and need as organizing factors in perception. *J. Abn. & Soc. Psychol.*, 1947, **42**, 33-44.
3. Bruner, J. S., & Postman, L. Symbolic value as an organizing factor in perception. *J. Soc. Psychol.*, 1948, **27**, 203-208.
4. Bruner, J. S., & Rodriques, J. S. Some determinates of apparent size. *J. Abn. & Soc. Psychol.*, 1953, **48**, 17-24.
5. Carter, L. F., & Schooler, K. Value, need, and other factors in perception. *Psychol. Rev.*, 1949, **56**, 200-207.
6. Craddick, R. A. Size of Santa Claus drawings as a function of time before and after Christmas. *J. Psychol. Stud.*, 1961, **12** (No. 3), 121-125.
7. Dukes, W. F., & Bevan, W. Size estimation and monetary value: A correlation. *J. of Psychol.*, 1952, **34**, 43-53.
8. ———. Accentuation and response variability in the perception of personally relevant objects. *J. Personal.*, 1952, **20**, 457-465.
9. Hochberg, J. E. Psychophysics and stereotypy in social perception. In Sherif, M., & Wilson, M. O. (Eds.), *Emerging Problems in Social Psychology*. Norman, Okla.: University Book Exchange, 1957.
10. Mansvelt, E. Over het schatten der grotte van figuren van verschillenden vorm. *Meded. u. h. Psychol. Lab. d. Rijksuniv. t. Utrecht.*, 1928, **4** (II), 134-137.
11. Solley, C. M., & Haigh, G. How children perceive Santa Claus. *Menninger Quart.*, 1958, **12** (No. 4), 23-24.
12. Tajfel, H. Value and judgment of magnitude. *Psychol. Rev.*, 1957, **64**, 192-204.

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ATTITUDES OF LOWER-CLASS FAMILIES*

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A. PROBLEM

In reviewing the literature, one finds little data available concerning intra-family attitudes, especially on family-life issues. Yet, it is assumed by students of the family that membership within one's family group contributes heavily to the formation of attitudes. The standards of behavior, values, and interaction between family members would undoubtedly influence one's attitudes. Therefore it would be presumptive and plausible to assume that parents and children would be in agreement on family-life issues.

This study sought to test the hypothesis that perceptions of attitudes between parents and their children are significantly related. More specifically, the investigation focuses on the general question of to what extent do lower-class family members share common family-related attitudes.

B. METHOD

The sample was comprised of 42 white lower-class parents, and their adolescent children. The McGuire-White Index of Social Status (Short Form) (3) was utilized as a measure of social class. Each family consisted of husband, wife, son, and daughter.

The families responded to the Parental Attitude Research Instrument (PARI) which was developed by Schaefer and Bell (4). The instrument was administered to each subject by means of a structured interview. The adolescent children were interviewed during regular school hours while both parents were interviewed, simultaneously and independently, by two interviewers in the home. In order to avoid the possibility of communication between family members, interviews were conducted during the same day for each family.

C. RESULTS AND DISCUSSION

Table 1 presents the product-moment correlations between parents and children.

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TABLE 1
RELATIONS BETWEEN PARENT AND CHILD ATTITUDES
(S = sons, D = daughters, M = mothers, F = fathers)

Scale	S	D	M	F
Acceleration Development				
S		—.17	.16	.27
D			.59**	.15
M				—.29
Avoidance Communication				
S		.20	.26	.19
D			.49*	.44*
M				—.31
Deification				
S		.10	.22	.17
D			.48*	.21
M				.26
Equalitarianism				
S		.11	.21	.19
D			.28	.23
M				.26
Fostering Dependency				
S		.14	.19	.16
D			.49*	.22
M				.26
Irritability				
S		.11	.43*	—.17
D			.55**	.25
M				.26

Scale	S	D	M	F
Approval of Activity				
S		.14	.19	.21
D			.54*	.16
M				.57**
Breaking the Will				
S		—.08	.10	.13
D			.25	.18
M				.09
Dependency Mother				
S		.19	.21	.17
D			.54*	.22
M				.24
Excluding Outside Influence				
S		—.13	.19	.18
D			.44*	.17
M				.21
Inconsiderate of Husband				
S		.17	.27	.28
D			.43*	.09
M				.11
Marital Conflict				
S		—.06	.12	.49*
D			.47*	.26
M				.23

Scale	S	D	M	F
Ascendancy of Mother				
S		.43*	.49*	.19
D			.46*	.25
M				.21
Comradeship Sharing				
S		.65**	.64*	.68**
D			—.71**	—.69**
M				.73**
Encouraging Verbalization				
S		.63**	.56**	.60**
D			.54*	.58**
M				—.66**
Fear Harming Baby				
S		.19	.14	.18
D			.60**	.17
M				—.30
Intrusiveness				
S		.21	.23	.18
D			.47*	.28
M				.26
Martyrdom				
S		.12	.13	—.28
D			.53*	.32
M				.51*

TABLE 1 (*continued*)

Scale				Scale				Scale			
Rejection of Homemaking				*Sedusion of Mother*				*Strictness*			
	S	D	M	F	S	D	M	F	S	D	M	F
S		.15	.21	.19	S	.26	.46*	.18	S	—.06	.23	.21
D			.71**	.21	D		.47*	.29	D		.56**	.26
M				.27	M			.44*	M			—.66**
Suppression of Aggression				*Suppression of Sex*							
	S	D	M	F	S	D	M	F				
S		.09	.19	.51**	S	—.15	.17	.48*				
D			.49*	.26	D		.45*	.23				
M				.24	M			.51*				

* $p < .05$, one-tailed.
** $p < .01$, one-tailed.

When comparisons were made between family members, 44 significant relations were obtained at the .05 level or beyond. Of these, 21 significant relations were observed between mothers and daughters, thus indicating that there is more substantial agreement of attitudes between mothers and daughters than among any other family members. This finding seems to refute findings by Herschberg and Gilliland (2) and Dentler and Hutchinson (1). In the Herschberg and Gilliland (2) study, it was found that the highest relation existed between fathers and daughters and between sons and daughters. Dentler and Hutchinson (1) noted that husbands and wives, regardless of class, reflected the highest level of relations, while mothers and daughters reflected the lowest. Dentler and Hutchinson did, however, observe that overall consensus between paired family members decreases as class level decreases.

The high number of relations observed between mothers and daughters in the present investigation and not in the two other studies may be attributed to such factors as differences in instruments, methodology, and populations. As Herschberg and Gilliland (1) point out, the degree of relations depends upon the home situation, subjects tested, and attitudes studied. For example, Dentler and Hutchinson studied attitudes toward love, companionship, and authority, while Herschberg and Gilliland investigated attitudes toward God, depression, and new deal.

No significant relations were found in the scales *Breaking the Will* and *Equalitarianism*. The lack of relations may in part be due to the content of the items in the scales. The items in the scale *Breaking the Will* dealt with punishment of children, while the *Equalitarianism* scale was concerned with treating children as equals.

Relations between all family members were observed in the two scales *Encouraging Verbalization* and *Comradeship and Sharing*. Agreement with the statements in these two scales indicated that parents and their children favor a relationship which is characterized by comradeship, sharing, and permitting or encouraging a child to talk about his anxieties, conflicts, and hostilities.

Although the home environment is a source for the development of attitudes, there is great variability between families as the influence is greater in some cases than in others. The formation of attitudes may or may not be largely influenced by the family. For instance, other aspects, such as social behavior, socioeconomic class, personality, and physical and intellectual development, may have contributed to the formation and inculcation of attitudes.

It should also be pointed out that in such an investigation there is a basic

assumption that if parents and children have the same perceptions, the children must have learned their attitudes from their parents. This implies, however, a causal relation which, empirically, is not warranted. While it is very possible and presumptive that parental attitudes contributed to the formation of attitudes in their children, it is erroneous to exclude other factors. Influences, for example, outside of the family may have contributed to the formation of attitudes of both parents and their children and/or parents and children may have reached independently similar conclusions. In either instance, if there is parent-child consensus of attitudes, the parents are not *directly* responsible for the attitudes held by their children.

D. Summary

This investigation tested the hypothesis that perceptions of attitudes between parents and their children are significantly related. Forty-two white lower-class parents, and their adolescent children, responded to the Parental Attitude Research Instrument. Essentially, the results indicated (*a*) that members of the same family have different perceptions of attitudes toward family life; (*b*) that greater agreement exists between the perceptions of mothers and daughters than between the perceptions of fathers and their children; and (*c*) that parents and their children favor a relationship which is characterized by comradeship, sharing, and permitting or encouraging a child to talk about his anxieties, conflicts, and hostilities.

References

1. Dentler, R. A., & Hutchinson, J. G. Socioeconomic versus family membership status as source of family attitude consensus. *Child Devel.*, 1961, **32**, 249-254.
2. Herschberg, G., & Gilliland, A. R. Parent child relationships in attitude. *J. Abn. & Soc. Psychol.*, 1942, **37**, 125-130.
3. McGuire, C., & White, G. D. The measurement of social status. Research paper in human development No. 3 (revised), University of Texas, Austin, 1955.
4. Schaefer, E. S., & Bell, R. Q. Development of a parental attitude research instrument. *Child Devel.*, 1958, **29**, 339-361.

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NUMBER OF EXPOSURES TO PERSUASIVE COMMUNICATION IN THE INSTRUMENTAL CONDITIONING OF ATTITUDES* [1]

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A. INTRODUCTION

Attitude change has typically been measured by the probability or amplitude of agreement with an opinion statement (or by change in the probability or amplitude of agreement). In the present study the dependent variable was speed (1/latency) of agreement with an opinion statement. Such a time measure should, under appropriate circumstances, be more precise than a probability measure, and may possibly have some advantages over conventional amplitude measures, because the usual scaling problems of opinion measurement are not likely to be encountered with such a continuous physical variable. This measurement technique was employed not primarily for methodological reasons, however, but rather because it was required by the theory of attitude learning through persuasive communication (10) which the present research attempts to test. This theory of persuasion is based on systematic analogies with learning research and Hullian learning-theory (7). In the Hullian theory of instrumental conditioning, response speed (1/latency) is considered to be a linear function of excitatory potential (E). Response amplitude is related to E only in classical conditioning (2, 7). The present study is concerned with the "instrumental conditioning" of attitudes. Because the theory of persuasion distinguishes between instrumental and classical conditioning in a manner closely modeled on Hullian theory, speed was the dependent variable employed.

The present experiment was intended to be analogous to instrumental conditioning in independent variables and acquisition conditions, as well as in response measurement. In terms of the empirical law of effect, any event which follows a response and increases the strength of that response on the next trial is called a reinforcer. In the persuasive communications employed

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in this study, an opinion statement is followed by an opinion-supporting argument. (The argument consists of information supporting the opinion statement, and specifically excludes repetitions of the opinion.) It seems reasonable to expect that a communication in which the opinion to be learned is followed by a convincing argument will be more effective than one which does not include any support for the opinion. Such an argument would then function as a reinforcer and might perhaps exhibit other functional properties of reinforcers. One such property is the inverse relationship between delay of reinforcement and response strength. In a recent study (11), delay of argument was found to have functional properties similar to delay of reinforcement, including the nature of its interaction with drive. Similarly, response speed is an increasing function of magnitude of reinforcement (1, 13), and magnitude of reinforcement combines additively with drive to determine response speed (4, 9). Strength of argument may be regarded as analogous to (i.e., having the functional properties of) magnitude of reinforcement. A previous study (11) indicated that speed of agreement is an increasing function of argument strength; speed of agreement is an increasing function of drive (extreme scores on the Manifest Anxiety Scale); and strength of argument and drive combine additively (nonsignificant interaction, parallel curves on a graph) to determine speed of agreement.

The variables employed in the present study were argument strength (as in the study described above) and number of exposures to persuasive communication. Number of exposures to the persuasive communication was regarded as analogous to number of reinforced trials. Research (1, 13) and theory (2, 7) in instrumental conditioning indicate that (*a*) response speed is an increasing function of number of reinforced trials, (*b*) response speed is an increasing function of magnitude of reinforcement, and (*c*) number of reinforced trials and magnitude of reinforcement combine *multiplicatively* to determine response speed. Analogous predictions concerning number of exposures to persuasive communication and argument strength in the "instrumental conditioning" of attitudes may be made from the theory (10) which the present research attempts to test. Theoretically, (*a*) speed of agreement should be faster for *S*s who were exposed to the persuasive communication twice than for those exposed only once; (*b*) speed of agreement should be faster for *S*s persuaded with a strong argument than for those persuaded with a weak argument [as found by Weiss, Rawson, and Pasaminick (11)]; and (*c*) number of exposures to persuasive communication and argument strength combine multiplicatively (significant interaction, diverging curves on a graph) to determine speed of agreement.

20. The British House of Lords should be reorganized.

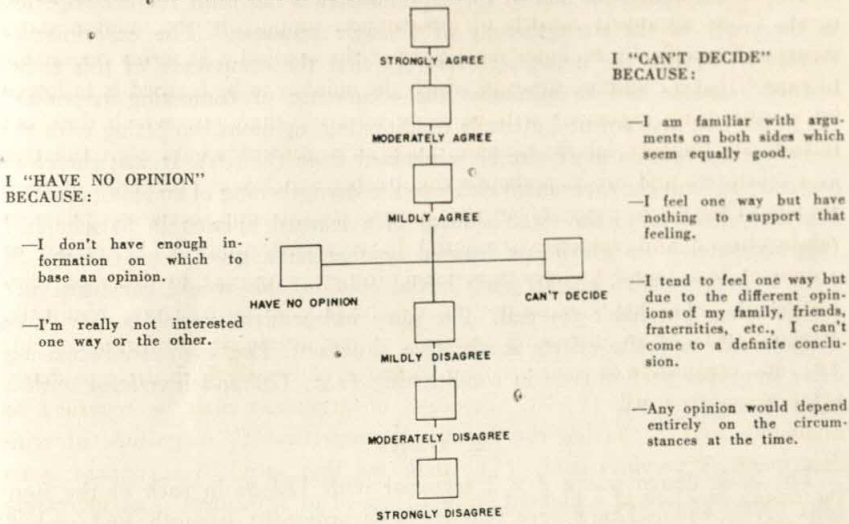

FIGURE 1

AN ITEM FROM THE ATTITUDE BEFORE-TEST

An *S* who neither agreed nor disagreed could check either "no opinion" or "can't decide," but not both. Any *S* checking one of these two alternatives was always required to check one or more reasons why he had no opinion or could not decide. The instructions defining these two alternatives were thus constantly present and attended to, throughout the test.

B. METHOD

1. *Subjects*

The *S*s were 488 undergraduate students at The Ohio State University, selected on the basis of their performance on an attitude test administered three to nine weeks before the experimental session.[2] An item from the before-test is shown in Figure 1. The purpose of the test was to distinguish between (*a*) *S*s who already held the opinion advocated in the experimental communication (agree), (*b*) *S*s who held an incompatible opinion (disagree), (*c*) *S*s who were apparently neutral because they had conflicting opinions (can't decide), and (*d*) *S*s who were apparently neutral because they had (approximately) no opinion. All *S*s selected for the experiment checked "no opinion" on the opinion which was to be learned through persuasive communication. In instru-

[2] Routine precautions were taken to prevent association between the before-test and the experimental session. The names of the experimenters and their institutional affiliation did not appear on the questionnaire. The before-questionnaire was administered in classes by a tester who was not known to be connected with the Columbus Psychiatric Institute and who did not act as an experimenter in the later session. Only one of the 21 items on the before-test was involved in the experimental session which took place 3-9 weeks later.

mental conditioning, the aim of the experimenter is to "limit the investigation to the study of the strengthening of a single response." The experimenter therefore attempts to "maximize from the first the occurrence of this to-be-learned response and to minimize the occurrence of competing responses" (7, p. 38). In instrumental attitude conditioning, opinions competing with the to-be-learned opinion must also be minimized from the first. It was therefore necessary to limit the experiment either to the strengthening of an opinion which *S* already held or to the establishment of a learned opinion in *S*s who had (approximately) no previously learned opinion on a given topic. If the *S*s were to be persuaded *against* their initial opinion, this would constitute not conditioning, but habit reversal. The same independent variables may have diametrically opposite effects in the two situations. For example, increasing drive improves performance in conditioning (e.g., 12) and interferes with a habit reversal (3, 8).

2. *Design*

The basic design was a 2×2 factorial with 122 *S*s in each of the four cells ($N = 488$). There were two levels of argument strength, and each *S* was exposed to a single communication either once or twice. The experiment was analyzed as a $2 \times 2 \times 2$ factorial, because 320 *S*s received persuasive communication directed at Opinion-A (see below) and 168 *S*s received persuasive communication directed at Opinion-B.

3. *Communications*

There were two sets of persuasive communications, one set concerned with Opinion-A and the other with Opinion-B. In each set the strong and weak argument communications were identical except for the argument. In set A, the opinion to be learned was: "The British House of Lords should be reorganized." The weak argument was: "It is possible that where heredity is one of the factors taken into account in selection, there may be some limitation of ability." The strong argument was: "It is a long-established fact that placing people in positions of public responsibility and power on a family or hereditary basis leads to incompetence and mismanagement. Efficiency naturally suffers when ability is not taken into account in selection and when individuals cannot be removed from office for incompetence. Moreover, the evidence of modern social science and practical experience indicates that individuals appointed on a family basis tend to be more devoted to family interest than they are to public interest."[3] In set B, the opinion to be learned was:

[3] In a parametric study, it would be necessary to scale judgments of the several arguments employed by an equal-intervals method, in order to determine the true

"Water rights in the Southwest should be regulated by the Commerce Department." The weak argument was: "The Colorado River flows through Wyoming, Colorado, Utah, New Mexico, California, Nevada, and Arizona, and there have been disagreements between these states on the use of Colorado River water." The strong argument was: "The Colorado River flows through Wyoming, Colorado, Utah, New Mexico, California, Nevada, and Arizona, and there have been bitter quarrels between these states on the use of Colorado River water. There have been endless legal battles, taking up the time of the U. S. Supreme Court. Arizona once actually called out its state guard and attempted to guarantee its water supply by force of arms. Congress even gave permission to several states to make a 'treaty' to divide Colorado River water, but there have been refusals to join the 'treaty organizaation' and a number of 'treaty violations.' "

4. *Persuasion and Deception*

The experiment was represented to the *S*s as a study of "speaking ability and personality," investigating the relationship between speech habits, personality dynamics and decision making. "Speaking ability" was ostensibly assessed by instructing the *S*s to read several short passages into the microphone of a clearly visible tape recorder "with as much expression and conviction as possible." The one-exposure groups read six passages, the last of which was the persuasive communication. The two-exposure groups read three passages (the last of which was the persuasive communication) and were then instructed to read all three passages a second time.[4] As a further contribution to the deception, after reading the first three passages, the *S*s were instructed to "listen to a recording of some of the most effective public speeches made during the past thirty years. Each of the world-famous speakers presented

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shape of the function. A multidimensional scaling of arguments would probably reveal several dimensions of content and phrasing which could then be experimentally manipulated. Thorough investigation of the structure of opinion-supporting arguments will be required if research is to progress beyond the relatively crude strong-argument *vs.* weak-argument distinction employed here.

4 The independent and the dependent variables employed in this experiment were based on systematic analogies with research and theory in instrumental conditioning. The *initial* and the *boundary* conditions defining the instrumental attitude-conditioning situation were also based on systematic analogies with conditioning research and theory, as indicated by the distinction between conditioning and habit-reversal emphasized above. The procedure requiring *S* to make the opinion response (by reading the communication), which is common in persuasion research, also enables the experimenter to "maximize from the first the occurrence of this to-be-learned response" (7, p. 38) as is required in instrumental conditioning. (It is clear that instrumental conditioning is to be distinguished from both trial-and-error learning and habit-reversal in attitude learning by the same criteria applied in standard learning research.)

here has distinct speech habits which make his presentations effective. Listen as carefully as you can and note each person's distinct speaking characteristics and style of presentation." "Decision-making" was ostensibly studied with the attitude-measuring apparatus described below. The MAS, administered at the beginning of the experimental session, constituted the "personality dynamics" phase of the study as represented to the *S*s.

5. *Apparatus*

The attitude-measuring apparatus assessed the *S*s' speed of agreement with the opinion statement after they had been exposed to persuasive communication. The opinion statement was projected on a screen, and *S* signified his agreement (if he agreed) by moving a lever toward the statement. The apparatus has two such screens, only one of which was required for the present study. The screens were of glass, 7 inches long and 4 inches high, and were set in a flat grey panel 60 inches high by 44 inches wide. The lower edge of each screen was 47 inches from the floor. Below this (40 inches from the floor) was a horizontal slot, along which a lever (normally in a center position) could be moved 14 inches in either direction. The screens and the slot were arranged so that the outer edges of the screens were directly above the ends of the slot, and the neutral center position of the lever was equidistant between the two screens. The lever protruded 15 inches from the panel and ended in a knob which afforded a comfortable grip. Behind the panel there were two Argus President automatic slide projectors, and three Standard Electric timers (1/100 second) mounted inside a soundproof box. The first clock measured time from the projection of the opinion on the screen until the lever was moved 1/4 inch toward the screen. The second clock measured time from this 1/4-inch point to the end of the slot. The third clock summed clocks one and two. Previous research (11) indicates that both the first and the third clocks provide appropriate measures of latency, though the full 14-inch lever-movement (3rd clock) appears to provide a slightly more stable measure than the 1/4-inch lever-movement (1st clock). (The second clock has no theoretical meaning and was included as a check on any possible anomalies between the data of the other two clocks.) When the lever reached the end of the slot, a small blue light at the end of the slot was lit, informing *S* that he had moved the full distance. The blue light was turned on by the same microswitch which stopped the second and the third clocks. The first clock was turned off silently by a photobeam. The *S*s thus had no indication that their responses were being timed.

The *S*s were shown 16 slides, the 13th of which was the opinion statement

employed in the persuasive communication. The *S*s were allowed 45 seconds to respond. If they did not respond within this time, their speed of agreement was consisdered to be zero. *S*s who did not agree did not move the lever. The interval between slide presentations was 20 seconds. Each slide was preceded by a three-second ready signal.

C. Results

Figure 2 depicts mean speed of agreement (3rd clock) as a function of number of exposures to persuasive communication at two levels of argument strength. Speed of agreement was faster for *S*s exposed to persuasive communication twice than for those exposed once. However, the facilitating effect of argument strength found by Weiss, Rawson, and Pasamanick (11) does not appear to be replicated here.

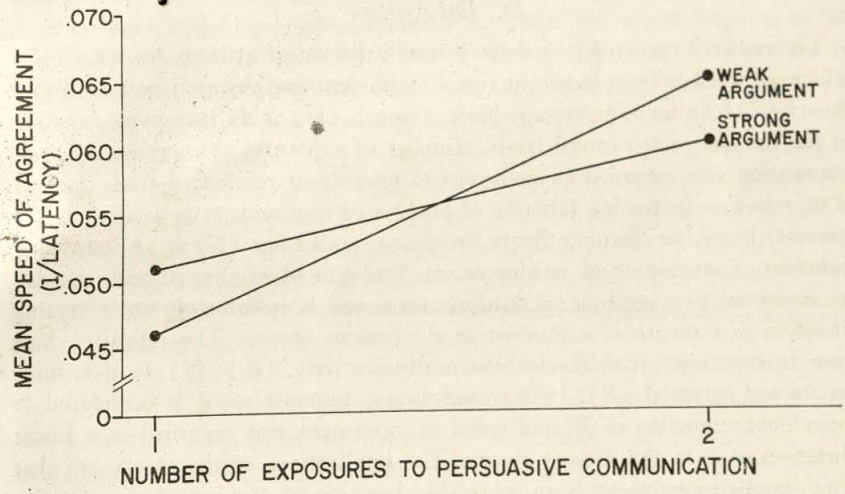

FIGURE 2
Mean Speed (1/Latency) of Agreement as a Function of Number of Exposures to Persuasive Communication at Two Levels of Argument Strength

Statistical analysis followed previous practice (11). In the four cells which received persuasive communication directed at Opinion-A, a maximum of 46 per cent in a cell learned the opinion, and the statistical analysis of the Opinion-A data was restricted to this 46 per cent ($N = 148$). In the four cells which received persuasive communication directed at Opinion-B, a maximum of 69 per cent in a cell learned the opinion, and the statistical analysis of the Opinion-B data was restricted to this 69 per cent ($N = 116$). Because

the *S*s excluded from each cell were all zero speed, Sigma X remains unchanged for each cell. The data thus remain the same as in Figure 2, except for multiplication by a constant. A $2 \times 2 \times 2$ factorial analysis of variance was performed on the data from these 264 *S*s. The main effect of number of exposures to persuasive communication was significant ($F = 6.96$, $df = 1/256$, $p < .01$), but there was no significant effect of argument strength ($F < 1$). In the absence of a significant main effect of argument strength, it is not surprising that the interaction between argument strength and number of exposures was not significant ($F < 1$). While speed of agreement was significantly faster for Opinion-B than for Opinion-A ($F = 5.29$, $df = 1/256$, $p < .025$), the argument strength $\times$ opinion ($F < 1$) and number of exposures $\times$ opinion ($F = 1.59$) interactions were not significant. Data from the first clock were similar to those described above.

D. Discussion

The research reported here derives from a theory of attitude learning (10) which is based on systematic analogies with learning-research and learning-theory (7).[5] In learning-theory, habit strength (H) is an increasing function of the number of reinforced trials. Number of exposures to a persuasive communication was regarded as analogous to number of reinforced trials, and H is therefore an increasing function of number of exposures to persuasion in the present theory. In learning-theory, incentive motivation (K) is an increasing function of magnitude of reinforcement. Strength of argument was regarded as analogous to magnitude of reinforcement, and K is therefore an increasing function of strength of argument in the present theory. Theoretically, these two intervening variables combine multiplicatively ($K \times H$) to determine excitatory potential (E). In learning-theory, response speed is considered to be a linear function of E, and speed of agreement was regarded as a linear function of E in the present theory. The implications of the theory are that (*a*) speed of agreement is an increasing function of number of exposures to persuasive communications; (*b*) speed of agreement is an increasing function of argument strength; and (*c*) argument strength and number of exposures to persuasive communication combine multiplicatively (significant interaction, diverging curves on a graph) to determine speed of agreement. The number of exposures effect was obtained. The argument strength effect, which had been obtained in a previous experiment (11), was not replicated in the

[5] The form of attitude learning discussed here is, of course, not the only analogy between instrumental conditioning and attitude formation which can be made, nor are opinion-supporting arguments the only possible reinforcers for instrumental attitude responses (5, 6).

present study. In view of the failure to find any main effect of argument strength, it was not surprising that there was no interaction between agreement speed and number of exposures to persuasion. Failure to replicate the argument strength effect seriously limits the value of the present study. The only systematic differences between the study reported here and the previous one are (*a*) in the previous study, only the Opinion-A communications were employed; (*b*) in the previous study, *S*s were exposed to the persuasive communication only once; (*c*) in the previous study, *S*s were selected for high (mean = 22.5 and 22.5) and low (mean = 6.2 and 6.6) scores on the Manifest Anxiety Scale. Even if conditions (*a*) and (*b*) are replicated by examining only the data of the 160 *S*s in the present study who received just one exposure to the Opinion-A communications, the argument strength effect is not replicated. The number of extremely high- or low-anxiety *S*s in the present study is too small to permit an adequate replication of condition (*c*), but examination of the data of *S*s scoring in the upper and lower quartiles of the MAS does not reveal an effect of strength of argument. The failure to replicate the argument strength effect thus remains unexplained.

The only conclusion which may be confidently drawn from this study, then, is that speed of agreement is an increasing function of number of exposures to persuasive communication, which is in agreement with the theory. The remaining points are inconclusive, and the results of this study are therefore rather disappointing. It is worth explicitly noting, however, that while discussions of mass communication have emphasized the role of repeated exposure to persuasive communication, the effects of such repeated exposure have not previously been demonstrated experimentally.

E. Summary

The effects of number of exposures to persuasive communication and strength of argument on attitude learning through persuasive communication were studied by means of a 2×2 factorial design. There were 488 *S*s, 122 in each of the four experimental conditions. The *S*s were selected on the basis of a questionnaire, administered three to nine weeks before the experiment, which assessed the initial strength of the opinion to be learned. All *S*s selected for the experiment indicated that they had "no opinion." The *S*s read several short passages into the microphone of a tape recorder, under the impression that they were engaged in a study of speaking ability and personality. The one-exposure groups received six passages, the last of which was the persuasive communication. The two-exposure groups read three passages (the last of which was the persuasive communication) and were then instructed to read

all three passages a second time. The communication included a statement of the opinion to be learned, followed by some supporting information (the argument) which did not repeat the opinion statement. Two groups read a communication in which the opinion was supported by a strong argument, and two groups read an otherwise identical communication in which the opinion was supported by a weak argument. The dependent variable was speed (1/latency) of agreement with a statement of the opinion. The opinion statement was projected on a screen, and *S* signified his agreement (if he agreed) by moving a lever toward the statement. *S*s who did not agree did not move the lever and were assigned a speed of zero. It was found that speed of agreement was significantly faster after two exposures to persuasive communication than after one exposure. The effect of argument strength on speed of agreement found in a previous experiment (11) was not replicated. The results were discussed in terms of a theory of persuasion (10) based on learning principles.

References

1. Crespi, L. P. Quantitative variations of incentive and performance in the white rat. *Amer. J. Psychol.*, 1942, **55**, 467-517.
2. Hull, C. L. A Behavior System. New Haven: Yale University Press, 1952.
3. Kendler, H. H., & Lachman, R. Habit reversal as a function of schedule of reinforcement and drive strength. *J. Exper. Psychol.*, 1958, **55**, 584-591.
4. Reynolds, W. F., & Pavlick, W. B. Running speed as a function of deprivation period and reward magnitude. *J. Comp. & Physiol. Psychol.*, 1960, **53**, 615-618.
5. Scott, W. A. Attitude change through reward of verbal behavior. *J. Abn. & Soc. Psychol.*, 1957, **55**, 72-75.
6. ———. Attitude change by response reinforcement: Replication and extension. *Sociometry*, 1959, **22**, 328-335.
7. Spence, K. W. Behavior Theory and Conditioning. New Haven: Yale University Press, 1956.
8. Taylor, J. A. Drive theory and manifest anxiety. *Psychol. Bull.*, 1956, **53**, 303-320.
9. Weiss, R. F. Deprivation and reward magnitude effects on speed throughout the goal gradient. *J. Exper. Psychol.*, 1960, **60**, 384-390.
10. ———. Persuasion and the acquisition of attitudes: Models from conditioning and selective learning. *Psychol. Rep.*, 1962, **11**, 709-732.
11. Weiss, R. F., Rawson, H. E., & Pasamanick, B. Argument strength, delay of argument and anxiety in the "conditioning" and "selective learning" of attitudes. *J. Abn. & Soc. Psychol.*, 1963, **67**, 157-165.
12. Yamaguchi, H. G. Drive (D) as a function of hours of hunger (h). *J. Exper. Psychol.*, 1951, **42**, 108-117.
13. Zeaman, D. Response latency as a function of the amount of reinforcement. *J. Exper. Psychol.*, 1949, **39**, 466-484.

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ARONS, L., & MAY, M. A., *Eds.* Television and Human Behavior: Tomorrow's Research in Mass Communication. New York: Appleton-Century-Crofts, 1963. Pp. 308.

BASSETT, W. T. Counseling the Childless Couple. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 139.

BANDURA, A., & WALTERS, R. H. Social Learning and Personality Development. New York: Holt, Rinehart & Winston, 1963. Pp. 329.

BARTELS, R., *Ed.* Ethics in Business. Columbus, Ohio: Ohio State Univ., Bur. Bus. Res., 1963. Pp. 180.

BARTON, R. F. Autobiographies of Three Pagans in the Philippines. New Hyde Park, N.Y.: University Books, 1963. Pp. 271.

BAUER, R. A., POOL, I., & DEXTER, L. A. American Business and Public Policy, the Politics of Foreign Trade. New York: Atherton, 1963. Pp. 499.

BENNETT, J. Rationality. New York: Humanities Press, 1964. Pp. 123.

BERDIE, R. F., LAYTON, W. L., SWANSON, E. O., & HAGANAH, T. Testing in Guidance and Counseling. New York: McGraw-Hill, 1963. Pp. 238.

BLOOM, S. W. The Doctor and His Patient. New York: Russell Sage, 1963. Pp. 270.

BORING, E. G. History, Psychology, and Science: Selected Papers. New York: Wiley, 1963. Pp. 251.

BRADFORD, L. P., GIBB, J. R., & BENNE, K. D., *Eds.* T-Group Theory and Laboratory Method. New York: Wiley, 1964. Pp. 498.

BRECKENRIDGE, M. E., & MURPHY, M. N. Growth and Development of the Young Child (7th ed.) Philadelphia: Saunders, 1963. Pp. 564.

BROWN, R. Explanation in Social Science. Chicago: Aldine, 1963. Pp. 198.

CAIN, A. H. Help Yourself to Health—Through Will Power. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 180.

CAMERON, N. Personality Development and Psychopathology: A Dynamic Approach. Boston: Houghton Mifflin, 1963. Pp. 793.

CARROLL, H. A. Mental Hygiene: The Dynamics of Adjustment. Englewood Cliffs, N.J.: Prentice-Hall, 1964. Pp. 408.

CARSTAIRS, G. M. This Island Now: The Surge of Social Change in the Twentieth Century. New York: Basic Books, 1963. Pp. 103.

CASRIEL, D. So Fair a House: The Story of Synanon. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 224.
CATON, C. E. Philosophy and Ordinary Language. Urbana: Univ. Illinois Press, 1963. Pp. 246.
COOPER, J. B., & MCGAUGH, J. L. Integrating Principles of Social Psychology. Cambridge, Mass.: Schenkman, 1963. Pp. 320.
COSTELLO, T. W., & ZALKIND, S. S. Psychology in Administration. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 500.
CROCKETT, R., SANDISON, R. A., & WALK, A., *Eds.* Hallucinogenic Drugs and Their Psychotherapeutic Use. Springfield, Ill.: Charles C Thomas, 1963. Pp. 191.
CULBERTSON, J. T. The Minds of Robots: Sense Data, Memory Images, and Behavior in Conscious Automata. Urbana: Univ. Illinois Press, 1963. Pp. 466.
CRUICKSHANK, W. M., *Ed.* Psychology of Exceptional Children and Youth. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 623.
CYERT, R. M., & MARCH, J. G. A Behavioral Theory of the Firm. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 332.
DAVIES, J. C. Human Nature in Politics. New York: Wiley, 1963. Pp. 403.
DELACATO, C. H. The Diagnosis and Treatment of Speech and Reading Problems. Springfield, Ill.: Charles C Thomas, 1963. Pp. 188.
DEUTSCH, K. W. The Nerves of Government. New York: Free Press of Glencoe, 1963. Pp. 316.
DORSON, R. M. Buying the Wind. Chicago: Univ. Chicago Press, 1964. Pp. 574.
DUDYCHA, G. J. Applied Psychology. New York: Ronald Press, 1963. Pp. 468.
EGG, M. When a Child Is Different. New York: John Day, 1964. Pp. 155.
ELLIS, A. Sex and the Single Man. New York: Lyle Stuart, 1963. Pp. 318.
ELLIS, A. The Intelligent Woman's Guide to Man-Hunting. New York: Lyle Stuart, 1963. Pp. 320.
FARBER, S. M., & WILSON, R. H. L., *Eds.* The Potential of Woman. New York: McGraw-Hill, 1963. Pp. 328.
FARBEROW, N. L., *Ed.* Taboo Topics. New York: Atherton, 1963. Pp. 140.
FEIBLEMAN, J. K. Mankind Behaving: Human Needs and Material Culture. Springfield, Ill.: Charles C Thomas, 1963. Pp. 210.
FINE, B. Stretching Their Minds. New York: Dutton, 1964. Pp. 255.
FLAMENT, C. Applications of Graph Theory to Group Structure. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 142.
FRASER, J. M. Industrial Psychology. New York: Macmillan, 1963. Pp. 181.
FROMM, E. The Dogma of Christ and Other Essays on Religion, Psychology and Culture. New York: Holt, Rinehart & Winston, 1963. Pp. 212.
GARAN, D. B. The Paradox of Pleasure and Relativity. New York: Philosophical Library, 1963. Pp. 499.
GARRISON, K. C., KINGSTON, A. J., & MCDONALD, A. S. Educational Psychology. New York: Appleton-Century-Crofts, 1964. Pp. 544.
GLAZER, N., & MOYNIHAN, D. P. Beyond the Melting Pot: The Negroes, Puerto Ricans, Jews, Italians, and Irish of New York City. Cambridge, Mass.: M. I. T. Press & Harvard Univ. Press, 1963. Pp. 360.
GOLDSTEIN, A. P. Therapist-Patient Expectancies in Psychotherapy. New York: Pergamon, 1962. Pp. 141.
GOLDSTEIN, K. The Organism. Boston: Boston Press, 1963. Pp. 533.
GOODE, W. J. World Revolution and Family Patterns. New York: Free Press of Glencoe, 1963. Pp. 432.
GOODENOUGH, W. H. Cooperation in Change. New York: Russell Sage, 1963. Pp. 543.
GOTTSEGEN, M. G., & GOTTSEGEN, G. B., *Eds.* Professional School Psychology (Vol. II). New York: Grune & Stratton, 1963. Pp. 354.
GRAETZ, H. R. The Symbolic Language of Vincent Van Gogh. New York: McGraw-Hill, 1963. Pp. 315.
GREEN, B. F., JR. Digital Computers in Research: An Introduction for Behavioral and Social Scientists. New York: McGraw-Hill, 1963. Pp. 333.
GRINDER, R. E., *Ed.* Studies in Adolescence. New York: Macmillan, 1963. Pp. 524.

GRINKER, R. R., & SPIEGEL, J. P. Men Under Stress. New York: McGraw-Hill, 1963. Pp. 484.
GROSSACK, M. M., *Ed.* Mental Health and Segregation. New York: Springer, 1963. Pp. 247.
GUETZKOW, H., ALGER, C. F., BRODY, R. A., NOEL, R. C., & SNYDER, R. C. Simulation in International Relations: Developments for Research and Teaching. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Pp. 248.
HAFEZ, E. S. E., *Ed.* The Behavior of Domestic Animals. Baltimore, Md.: Williams & Wilkins, 1962. Pp. 619.
HALLER, M. H. Eugenics: Hereditarian Attitudes in American Thought. New Brunswick, N.J.: Rutgers Univ. Press, 1963. Pp. 264.
HECKEL, R. V., & JORDAN, R. M. Psychology: The Nurse and the Patient. St. Louis: Mosby, 1963. Pp. 305.
HANFMANN, E., JONES, R. M., BAKER, E., & KOVAR, L. Psychological Counseling in a Small College. Cambridge, Mass.: Schenkman, 1963. Pp. 131.
HARVEY, O. J., *Ed.* Motivation and Social Interaction: Cognitive Determinants. New York: Ronald Press, 1963. Pp. 332.
HASTINGS, D. W. Impotence and Frigidity. Boston: Little, Brown, 1963. Pp. 144.
HOLLANDER, E. P., & HUNT, R. G., *Eds.* Current Perspectives in Social Psychology. New York: Oxford Univ. Press, 1963. Pp. 557.
HUMPHREY, G., & COXON, R. V. The Chemistry of Thinking. Springfield, Ill.: Charles C Thomas, 1963. Pp. 148.
ISAACSON, R. L., *Ed.* Basic Readings in Neuropsychology. New York: Harper & Row, 1964, Pp. 429.
KAPLAN, B., *Ed.* The Inner World of Mental Illness. New York: Harper & Row, 1964. Pp. 467
KIELL, N. The Universal Experience of Adolescence. New York: International Univ. Press. 1964. Pp. 942.
KLINEBERG, O. The Human Dimension in International Relations. New York: Holt, Rinehart & Winston, 1964. Pp. 173.
KOPPITZ, E. M. The Bender Gestalt Test for Young Children. New York: Grune & Stratton, 1964. Pp. 195.
LAMBERT, W. W., & LAMBERT, W. E. Social Psychology. Englewood Cliffs: Prentice-Hall, 1964. Pp. 120.
LEHNER, G. F. J., & KUBE, E. The Dynamics of Personal Adjustment. Englewood Cliffs, N.J.: Prentice-Hall, 1964. Pp. 481.
LUCIA, S. P., *Ed.* Alcohol and Civilization. New York: McGraw-Hill, 1963. Pp. 415.
MATTHEWS, L. H., & KNIGHT, M. The Senses of Animals. New York: Philosophical Library, 1963. Pp. 240.
MAY, E. The Wasted Americans. New York: Harper & Row, 1964. Pp. 227.
MEDNICK, S. A. Learning. Englewood Cliffs, N.J.: Prentice-Hall, 1964. Pp. 118.
MURSTEIN, B. I. Theory and Research in Projective Techniques. New York: Wiley, 1963. Pp. 385.
PACKARD, V. The Naked Society. New York: David McKay, 1964. Pp. 369.
RUITENBEEK, H. M., *Ed.* Psychoanalysis and Contemporary American Culture. New York: Dell, 1964. Pp. 436.
SCHEERER, C., *Ed.* Cognition. New York: Harper & Row, 1964. Pp. 226.
SCHOFIELD, W. Psychotherapy: The Purchase of Friendship. Englewood Cliffs, N.J.: Prentice-Hall, 1964. Pp. 186.
SIBLEY, E. The Education of Sociologists in the United States. New York: Russell Sage, 1963. Pp. 218.
TOMKINS, S. S. Affect Imagery Consciousness (Vol. I). New York: Springer, 1962. Pp. 522.
TOMKINS, S. S. Affect Imagery Consciousness (Vol. II). New York: Springer, 1963. Pp. 580.
TOMKINS, S. S., & MESSICK, S., *Eds.* Computer Simulation of Personality. New York: Wiley, 1963. Pp. 325.
VAN DEN HAAG, E. Passion and Social Constraint. New York: Stein & Day, 1963. Pp. 368

WARREN, R. L. Social Research Consultation. New York: Russell Sage, 1963. Pp. 163.
WERNER, H., & KAPLAN, B. Symbol Formation. New York: Wiley, 1963. Pp. 530.
WHITLOCK, F. A. Criminal Responsibility and Mental Illness. London: Butterworths, 1963. Pp. 156.
WINCH, R. F. The Modern Family (rev. ed.) New York: Holt, Rinehart & Winston, 1963. Pp. 782.